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The Indian Trade Regime

M. Ataman Aksoy

Reforming export policies alone — without reforming India's import and tax systems — will produce only marginal improvements. The whole system needs rationalizing.

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This paper — a product of the South Asia Country Department III — is based on a larger study of India's trade regime undertaken by the Department. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Rose Matenda, room J11-217, extension 35055 October 1992, 82 pages).

Despite attempts to liberalize India's import trade regime, the structure of import licensing is still restrictive and complex and for most products, the licensing systems probably offers no more protection than tariffs do. For most products, trade restrictions are probably redundant as protection.

Reforming export policies alone — without reforming India's import and tax systems — will produce only marginal improvements. Problems in the export administration can be resolved only by making changes in four areas:

- The import licensing system must be rationalized to eliminate import restrictions on inputs and components. The import regime inflicts heavy administrative costs on the Indian economy. Imports of raw materials and other inputs essential for production are delayed, leaving downstream producers idle when domestic supplies are interrupted (which happens often). The export regime is still not rationalized for smaller producers, indirect exporters, and firms that rely on domestic suppliers.
- Tariffs and excise taxes must be consolidated around two to three slabs and the quantitative restrictions in intermediate and capital goods must be eliminated so firms can be compensated accurately for their tax burdens. The system that exists is far too complex.
- The absolute level of tariffs on inputs must be reduced to administer the duty-free import schemes efficiently. High tariffs encourage leakage of duty-free imports into the domestic market and abuse of high drawback rates (incentives).
- Tariffs and taxes on capital goods must be reduced to reduce the costs of investment. Tariffs in India — especially on key intermediate products (metals and chemicals) and capital goods — are high and getting higher fast. The high cost of basic inputs increases the cost of production, leads to uneconomic import-substitution which causes pressure for more protection, and requires an elaborate, cumbersome system to compensate exporters. High tariffs and excise taxes on capital goods damage Indian competitiveness, adding 10 to 15 percent to the cost of production and severely handicapping exporters.

The excessive tariffs do not fulfill their primary purpose of providing protection and incentives; they are aimed mainly at generating revenues. Public revenues should be generated through more efficient instruments, especially taxes.

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THE INDIAN TRADE REGIME

BY

M. ATAMAN AKSOY*

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* Principal Economist, India Department, Southern Africa Department, World Bank. This Paper is based on a larger study of India's trade regime undertaken by the India Department. This study does not reflect the major reforms that have been implemented since July 1991. The mapping of items in the import policy document to the Harmonized System (HS) was undertaken by Madhumita Gupta. Umnuay Sae-Hau drafted the section on tariffs and prepared the database used for the tables. Helena Tang prepared the quantification of export incentives. The staff of ICICI, especially the late Dr. Sanpath S. Iyengar, supplied the data on export profitability. The officials in the Department of Revenue and CCI&E contributed immensely to the establishment of the database. The input-output table used as the base was constructed by Prof. M. R. Saluja of the Indian Statistical Institute. The study also drew heavily from the earlier work of Garry Pursell and Donald Keesing. Numerous helpful comments were received from Michael Gould, David Greene, Francois Ettori and Ashok Khanna.

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1. Despite its importance in the post-independence growth of the Indian economy, the study of the trade regime has received relatively little attention. After the pioneering work of Bhagwati and Srinivasan (1975) and Panchamukhi (1978) which basically covered the experience of the 1960s, the study by Wolf (1982) focused only on exports. The experience of the 1970s and early 1980s was studied in an unpublished Ph.D. dissertation by Rao (1985). The description of the trade regime in the late 1980s is contained, again in unpublished monographs, by Pursell (1988) and Keesing (1987, 1988). Even in these studies, the complexity of the trade regime and the unavailability of up-to-date statistics have made it very difficult to quantify the extent of QRs, detailed tariff structures and the magnitude of export incentives.

2. This study tries to quantify the structure of the import licensing regime, analyze the detailed structure of tariff and excise taxes and their evolution and up date the nature and magnitude of export incentives. It is based on a large study carried out by the India department that mapped individual items in different import licensing categories to actual imports, obtained disaggregated information on tariffs, analyzed firm level data on export competitiveness, and organized this data around an input-output table built for 1987/88. This database allows us to quantify, on a consistent basis, the scope of QRs, tariffs and export subsidies. The impact of the trade regime on the historical behavior of exports, imports and industrial output is summarized in Aksoy and Tang (1991) and will not be discussed here. Similarly, the effect of the trade regime on effective protection and industrial efficiency is discussed in Aksoy and Ettori (1991). The descriptions of import and export policies draw heavily from Pursell (1988) and Keesing (1987, 1988). Section A covers the import regime, Section B, the tariff structure and Section C describes the export regime which compensates for the import and tariff regimes.

A. THE IMPORT LICENSING REGIME

3. India has had a very restrictive trade regime since the late 1950s. The instruments that have been used to regulate import demand have been an extensive import licensing system and high levels of tariffs. The import control

mechanisms in India were first introduced as a result of the foreign exchange crisis of the Second Plan (1956-61). From 1960 to 1977 these controls were increasingly tightened and made more complex. By 1977, when foreign exchange reserves were considered adequate, the Government began to relax import controls and quantitative restrictions.1/ This import liberalization phase has lasted until 1990.

4. Some of the more important import policy changes since 1978 include the expansion of OGL (Open General License) lists, shifting of goods from more to less restrictive lists, swifter and less restrictive administrative judgments and some reduction in the scope of canalization. In particular, there has been a relaxation of restriction on capital and intermediate goods imports, though primarily of commodities not competing with domestic production. Imports of most consumer goods continued to be banned. Most of these changes were made to allow particular domestic industries (including a number of export industries) to modernize. Capital and intermediate goods imports which were almost constant in real terms between 1966 to 1977 have risen substantially in recent years to more than 6% p.a. (Aksoy and Tang, 1991).

5. The complexity of the import regime makes it very difficult to quantify the impact and significance of QRs. First the product descriptions in different licensing categories vary in coverage from very specific to general and thus do not give any indication of the extent of items covered. Second, imports are not recorded by licensing categories. Third, classification of items in the import policy is not organized according to the Harmonized System (HS) classification used to report imports. Therefore, most of the previous analysis on the import regime have been descriptive and the changes had to be analyzed in terms of numbers of items shifted from different categories without measuring their impact on the magnitude of imports or products covered.

1/ These changes were incorporated in the trade policy statement of 1978/79. The basic change which applied to raw materials, manufactured inputs, consumer and spares, involved a switch from "positive" lists of allowable imports to a system of "negative" lists of restricted imports. The complex policy regarding import of capital goods and technology was also liberalized but on a more ad hoc basis. There was no change in the policy which bans most consumable goods imports.

6. Attempts have been made to estimate the share of imports subject to different licensing categories. Pursell (1988) has made rough estimates of imports under OGL for the 1980s and quotes estimates made by the Indian Government for 1980/81. These estimates are, however, very broad and based on a series of key assumptions that are difficult to verify.

7. This section tries to estimate the structure of import licensing system more precisely for 1987/88, by individually mapping the items in the Import-Export Policy document to the corresponding HS codes at the six digit level. First, a brief description of the import regime, drawn heavily from Pursell (1988), is presented and then the quantitative results of the licensing system are analyzed.

The Existing Import Control System

8. India has a very complex system of import licensing that was developed piecemeal over the last three decades. The basic document of import controls is a three volume Import and Export Policy Document issued annually until 1985, and now issued every three years. This document classifies items by licensing regime and describes the procedures for import. Numerous changes are made in this document from time to time by public notices, which make it very difficult to ascertain the scope and extent of the QRs. For example, in the first eight months of 1990, 102 import control and 60 export control public notices were issued.

9. Non-tariff barriers operating through the import licensing system have long been the principal means of regulating imports and protecting domestic industries. These controls include: (i) the import licensing system; (ii) "actual user" policy (which forbids imports by intermediaries such as wholesalers); (iii) canalization (monopoly import by a public sector firm); (iv) phased manufacturing programs (that mandate progressive import substitution); (v) the industrial licensing system and (vi) government purchase preferences for domestic producers.

10. Import Licensing System2/. The basic structure of the import licensing categories can be summarized as follows:

(a) A Banned List that contains a few commodities mainly for health or religious reasons;

(b) A Restricted List of commodities that require an import license, and are usually not importable except under special circumstances;

(c) A Limited Permissible List of commodities that also require a license less restrictive than the Restricted List;

(d) An Open General License (OGL), category of items not requiring an import license; and

(e) Canalized Products (mostly raw materials) whose import is restricted to public sector agencies or public sector manufacturing enterprises. To some extent, items can be in different lists (i.e., OGL, limited permissible) and also be canalized. Then the canalization agencies import these items under different import regimes.

11. In addition to these major categories, some of these items can be imported by exporters through export related licenses. The most common of these is the tradable Replenishment (REP) licenses, which allow exporters to import items on Canalized and Limited Permissible lists for own use or resale.

12. The import licensing system further subdivides imports into three broad categories by type of item: (i) consumer goods; (ii) capital goods; and (iii) intermediate raw materials, components, spare parts and supplies.

13. Finished consumer goods have long been in the Restricted list, and are practically banned with the following exceptions: (a) a few consumer goods in short supply imported by canalizing agencies, including edible oils, cereals, kerosene and certain drugs, etc.; (b) personal effects in passengers' baggage and gifts up to modest value limits; (c) medical and dental equipment and supplies used by doctors, dentists, and hospitals; (d) a few consumer goods are on OGL; i.e., pulses; books and journals in educational, scientific and technical fields; educational films; dried dates; wheelchairs; homeopathic

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2/ This is a highly stylized and simplified description of the import regime which consists of 17 appendices, each with various separate lists.

medicines; some computer sottware; photographic film; and (added in the new Policy) four spices--nutmeg, cloves, cinnamon and mace--which were formerly canalized; (e) a few industrial inputs on one of the limited permissible lists have potential non-industrial uses (paints, paper stationery, mirrors, locks, rubber hoses, and ethyl alcohol).

14. Capital goods imports are organized on a positive list principle and are divided into a "restricted" category and an "Open General License" (OGL) category. The import of capital goods that are not specifically on the OGL list are treated as restricted and require an import license. In addition, there is also a specific list of restricted capital goods which presumably indicate the items that an import license should not be granted.

15. OGL import of capital goods is subject to a number of conditions, of which the four most important are: (a) the importing firm must be the "actual user" of the equipment, which for five years cannot be resold without the permission of the licensing authorities; (b) the resulting change in productive capacity must be compatible with the capacity approved by the industrial licensing authorities; (c) most items on the OGL machinery and equipment list are grouped according to the industries which predominantly uses them, and firms not belonging to these industries would need to obtain special permission to import them; (d) special restrictions apply to imports of second-hand machinery and equipment, even if it would otherwise be on OGL.

16. Since 1976 there has been a steady increase in the number of capital goods on the OGL lists: From 79 in 1976 to 1170 in April 1988. This ostensibly was done to allow domestic industries to modernize. However, most of the machinery put on the OGL list was not produced domestically so relaxation of the list might not imply competition with domestic producers. An exception is the machine tools where items domestically produced have also been placed in OGL. There also has been reduced stringency in the licensing of imports of the majority of machinery and equipment items which remain subject to discretionary controls. A global tendering facility is available for industries or projects in 14 important categories regardless of the availability of indigenous capital goods, with selection of suppliers subject to scrutiny by the Empowered Committee. Also under "project imports" and technology development

funds, imports of machinery have been allowed much more easily in the last few years.

17. One of the changes in the 1988-91 Import-Export Policy is to allow recognized Export and Trading Houses to import capital goods through the use of export related licenses (Additional Licenses). Evidently this revision was caused by concern over the costs and difficulties to small firms of importing directly.

18. Intermediate goods are divided into: (a) banned; (b) restricted; (c) limited permissible; (d) canalized; and (e) OGL categories. In general, intermediate goods which are not in one of the first three categories, nor on the separate canalized lists, can be imported on OGL, i.e. without a license. In practice, however, the system has not functioned according to this apparent "negative list" principle, mainly because of ambiguities in the lists of controlled items. Therefore, OGL status for intermediate goods have been limited to items included in the published OGL lists, plus informal internal OGL lists accumulated by the licensing authorities.3/ In any case, the negative list principle for intermediate goods was officially revoked in late 1990 due to balance of payments difficulties. It was not clear to which category these so called "residual" items were moved. However, import licenses are now officially required for intermediate goods not specifically included in the OGL lists.

19. As with capital goods, all intermediate goods imported under any of the four categories above fall under the "actual user" requirement. The exceptions are provisions for imports of specified raw materials by the government canalizing agencies, a small list of raw materials and components

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3/ Importing an unlisted product without a decision on whether it could be imported on OGL is not possible because the banks would not release the foreign exchange if there was any doubt. Therefore, the import of unlisted items could be more difficult than importing unrestricted or limited permissible items, contrary to the intentions of high level policy makers. The move to a negative list principle was regarded as one of the most important changes recommended by the 1977/78 committee, but the principle was never implemented, and instead case-by-case decisions were made on individual applications and informal internal lists were built up of those items which could be imported on OGL.

on OGL which can be imported for stock or resale by private importers, and raw materials which can be imported by virtue of special provisions applying to exporters (especially REP licenses) and to authorized merchants in the export business ("export houses" and "trading houses") through Additional Licenses.

20. There has been a steady increase in the number of intermediate goods on the OGL list, and a reduction in the various banned and restricted lists since 1977. Some loosening of raw material controls has occurred in each year beginning with the 1977/78 policy. However, the main thrust of these policy changes has been to ease the supply situation of inputs used by domestic industries but not produced domestically. Most of the items put in the OGL category were either not made in India or not likely to be made in the coming year. In fact, each year some items are removed from the OGL to the various restricted lists on the ground that domestic products are available.

21. The main innovation in the 1988-91 and 1990-93 Policies, is that import replenishment (REP) licenses are now given for practically all exports (excluding gems) and can be used to import any item in limited permissible and canalized lists. These licenses are transferable to anyone. Thus, traders and domestic manufacturers will be able to get on all the items on these lists by buying these licenses.

22. Non-OGL Imports. All non-OGL imports, except for those by exporters, are subject to a case-by-case decision. In each case, the "sponsoring agency" of each firm must certify to the Chief Controller of Imports & Exports (CCI&E) that the import is "essential," and an "indigenous angle clearance" must be obtained, usually from the DGTD (Directorate General of Technical Development), which certifies that a product of satisfactory specifications and quality cannot be supplied in a reasonable time by an Indian firm. For capital goods, approval must be given by the concerned Capital Goods Committee. The cost of the domestic alternative is generally not considered in the decision. Other considerations include the foreign exchange availability, and the capacity approved by industrial licensing authorities. In sum, import licenses are issued in a non-price, and administratively ad-hoc manner.

23. Canalized Imports. Canalizing agencies are another means by which the Government controls imports. There are 12 designated such agencies listed in the Import-Export policy. There was not always a clear distinction between canalized imports and licensed imports, since some import licenses were issued to canalizing agencies to import apparently canalized products. During the late 1970s and early 1980s this overlapping occurred on a large scale. Import canalization was adopted three decades ago in India. Between 1969 and 1973, there was a steep growth in the proportion of canalized imports to total imports, an outcome of the Government's decision to be more interventionist with regard to foreign trade. The share of canalized imports increased from 37.28% of the total in 1968-69 to 65.81% in 1973-74. From 1980, the share of canalized products in total imports has declined substantially, from about 67% in 1980/81 to about 27% in 1988. The fall in shares was less a reflection of decanalization than it was the result of: (i) an increase in domestic POL production, a decline in POL imports and a decline in world prices of crude oil and petroleum products; (ii) the disappearance of grain and cotton imports; and, (iii) large declines during the 1980s in the international prices of some of the other principal canalized imports. Nevertheless, there was decanalization of 21 items in April 1985 and a further 26 items in April 1988, although as a percentage of total canalized imports, these figures are rather small.

24. Actual User Policy. This policy excludes non-government intermediaries from importing, thereby disallowing imports for resale. The implications of this policy for different categories of imports are as follows: (a) consumer goods - Actual User Policy would prevent most of these imports even if the ban were lifted; (b) intermediate goods - special import licenses may be issued to allow canalizing agencies and certain private export and trading houses to import raw materials and components in bulk for resale to manufacturing firms. Also, private intermediaries can legally bypass this policy to some extent by acting as agents combining the replenishment licenses for exporters; (c) capital goods - the policy greatly restricts imports of capital equipment and intermediate goods by small and medium firms, and even by large firms when the quantities required are small, owing to the high transaction costs of importing on a small scale.

25. The only items that can really be imported freely are items imported through REP licenses.4/ Anybody who buys a REP license can import the products that are in canalized and limited permissible lists. Thus the most important distinction in this categorization is between the commodities in the restricted list and other categories. Items in other categories can be imported by REP licenses, while items in the restricted list cannot be imported by REP licenses. Although the proportion of imports through REP licenses are small (about 10% of exports), the potential import of these items allow the gaps between demand and supply of these commodities to be met by imports. For the commodities in the restricted list, adjustment of imports automatically to meet the excess demand in the domestic market is not possible.

26. Phased Manufacturing Programs (PMPs). These constitute a new development which runs counter to the general trend of the easing of restrictions on imports of intermediate inputs. The PMPs accompany investment licenses and involve agreement by the concerned firm to progressively replace imported materials, parts and components with those produced in-house or by other Indian firms. To ensure implementation of the agreements, the import of all such parts and components requires prior clearance (List Attestation) by the sponsoring authority for the industry. These agreements and procedures therefore amount to a separate set of quantitative import controls which apply to many intermediate products, including those on OGL lists, which in theory are importable without the restrictions.

27. Industrial Regulatory System. This is in effect another discretionary, non-tariff barrier that protects the machinery and engineering industries against competing imports. The system involves the clearance by the Capital Goods Committee (CGC) of applications for industrial licenses for new or expanded capacity. The CGC scrutinizes the foreign exchange content of the investment and may reject applications involving what it regards as excessive foreign exchange outlay, or may require local sourcing of particular machinery and equipment items. The latter is applicable even if the items are on the

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4/ The only exception is the few items that are on OGL-stock and sale list. This list has about 75 items and imports in this category are less than 1% of total imports.

OGL lists. Technology import policies also protect the capital goods industries. Under these policies, the allocation of foreign exchange to pay the royalties and license fees are subject to a case-by-case administrative review. The requirement of technology licenses for foreign firms, where such licenses are often linked to capital goods imports, is another form of non-tariff barrier to importing capital goods and technology. Finally, the reservation of particular products for exclusive production by small scale firms is also an indirect import barrier.

28. There has been liberalization of the controls on domestic industry since 1985. Some of the policy changes pertaining to this are include: (i) increases in the asset limit below which firms do not need an industrial license; (ii) greater flexibility for increasing capacity without obtaining a license (through provisions such as "capacity endorsement"); (iii) greater flexibility for diversifying production (through provisions for "broad banding" of industrial licenses). In addition, a number of product groups were delicensed, and in June 1988, a major reform carried this process further by delicensing all industries except for a negative list of 27 industries. Delicensing has freed up import restrictions in many ways: (i) only import policies, not industrial licensing policies, can in principle affect firms' decisions on whether to import capital equipment or buy it locally; (ii) with delicensing, there are no longer independent limits derived from industrial licensing which constrain the quantities which can be imported.

29. Government Purchase Preferences. Government purchases give preference to domestic firms. A price preference equivalent to 25% of the CIF price of imports plus duties and port charges is given to domestic suppliers by the Directorate General of Supplies & Disposals, which buys supplies for the central government and substantial amounts on behalf of state governments and state enterprises. Since Indian tariffs are high, this is equivalent to a substantial margin on CIF prices.

Quantitative Assessment of the Import Regime

30. Given the complexity of the import regime, it is very difficult to quantify the impact and significance of QRs in India. First, the descriptions in different licensing lists vary in coverage from very specific (Broach

sharpening machine for grinding broaches up to 250 mm diameter and 2000 mm length and equipped with hydraulically operated cross slide for flat broach grinder) to very general (all consumer goods howsoever described, of industrial, agricultural or animal origin, not appearing individually in Appendices 3, part A and 5 or specifically listed for import under Open General License). Thus, the number of entries does not give any indication of the extent of items covered. Second, the classification of items in the import policy is not organized according to the harmonized system (HS) classification used to report imports and tariffs. So items, as specified in import policy, can not be directly compared to actual imports. And third, customs does not record imports by licensing category, so information on the magnitude of imports under different licensing categories cannot be directly observed.

31. For the purposes of this study, individual items in the 1988-1991 Import-Export Policy document were mapped into the corresponding HS codes at the six digit level. The methodology of the mapping is given in Appendix A. Given the variance in levels of disaggregation in items listed in the policy document, however, the mapping to HS codes are not exact. Furthermore, some of the HS codes are not mentioned at all in the import policy. Instead of making assumptions about items not listed in the policy document, they are treated as residuals that can not be classified. This partial mapping covers 82% of imports by value and 70% of items by number of six digit HS codes.

32. There are three methods of estimating the share of items in different licensing categories. First is the distribution of HS codes (more than 4,500 items) by licensing category which gives equal weight to each HS code. Second is to weight these codes by domestic output. Unfortunately, the output data is not available in the same disaggregated form as the HS codes. The available output data is from the input-output table and includes 98 tradeable sectors. So the output weights include only the 98 sectors. Third method is to look at the distribution of imports. The codes whose import licensing category could not be identified are shown separately as "unknown." These unknown HS codes are distributed across the categories according to their shares in the total known items. Thus the presentation assumes that the items whose import licensing category are unknown are distributed in the same proportion as known items. Table 1 presents the structure of the licensing system under these three methods.

TABLE 1: COMPARISON OF DIFFERENT MEASURES OF INDIA'S IMPORT LICENSING STRUCTURE

	Banned/ Restricted	Limited Permissible	OGL	Canalized	TOTAL	Percentage Identified
Percentages of HS Codes	46	26	19	9	100	71
Percentages of Output-weighted HS codes	56	24	11	9	100	76
Percentages of Imports	20	28	20	33	100	82

As expected, restricted licensing measured through HS codes is much more prevalent than measured through imports. This is because most items in the restricted lists are not imported.

33. The structure of imports and number of six digit HS codes (weighted by output) by licensing categories are given below in Tables 2 and 3. They are obtained by dividing imports (or HS codes) in different licensing categories to total identified imports (total number of output-weighted HS codes) in that subsector. The percentage of items whose import licensing category could not be identified is shown separately in the "unknown" column. These unknown imports and HS Codes are distributed across the categories according to their shares in the total known items. This method seriously understates the restrictiveness of the import regime. First, by definition, all capital goods not specifically on the OGL list are restricted. Second, although raw materials not on the restricted lists are supposed to be on OGL, the actual implementation has not worked this way. Effectively, items not explicitly placed on OGL lists are restricted.

TABLE 2: IMPORTS BY LICENSING CATEGORY (1987/88)
(percentage of total imports)

	Banned and Restricted	Limited Permissible	OGL	Canalized	Total	Unknown/a	Share of Imports in Gross Domestic Output
AGRICULTURE	42.0	2.0	46.0	10.0	100.0	23.0	0.92
ENERGY	0.0	0.0	0.0	100.0	100.0	6.0	44.06
MINERALS	0.0	0.0	8.0	91.0	100.0	16.0	23.98
MANUFACTURING	23.0	36.0	23.0	18.0	100.0	21.0	8.94
Food, Beverages and Tobacco	34.0	0.0	0.0	65.0	100.0	26.0	2.51
Textiles and Leather	40.0	38.0	22.0	0.0	100.0	22.0	0.61
Petroleum and Coal Products	0.0	42.0	20.0	38.0	100.0	91.0	6.48
Chemicals	6.0	26.0	40.0	29.0	100.0	13.0	12.14
Non-metallic Minerals	8.0	89.0	2.0	0.0	100.0	2.0	28.38
Metals	16.0	26.0	10.0	47.0	100.0	12.0	13.97
Metal Products	0.0	94.0	6.0	0.0	100.0	28.0	4.41
Machinery/b	52.0	21.0	27.0	0.0	100.0	13.0	24.79
Electrical Appliances and Electronics	2.0	56.0	40.0	2.0	100.0	5.0	16.21
Transport Equipment	3.0	56.0	24.0	18.0	100.0	42.0	4.42
Others	12.0	17.0	47.0	24.0	100.0	47.0	10.15
TOTAL	20.0	28.0	20.0	33.0	100.0	18.0	7.17

/a These are given for information only. In the calculations, they are distributed to other known categories, so that totals include all imports.
/b Project imports are assumed to be restricted.

34. Table 2 presents the share of imports in different licensing categories by key subsectors. The energy subsector consists of crude oil and coal and lignite. Minerals include other non-processed raw materials. The last column in Table 2 gives the share of imports as a proportion of the gross output in that subsector.

35. In analyzing the restrictiveness of imports, two categories of relatively QR free imports have to be defined. First, OGL imports, while subject to actual user condition, can be imported without restriction on quantity. Their share in imports are about 20% overall and 23% in manufacturing. Second, items importable through export related licenses (REP); all items in limited permissible and canalized lists can be imported by REP

licenses and freely traded in the domestic market. If the items importable by REP licenses are also treated as restriction-free, the proportion of commodities importable under non-restrictive categories increase to about 71%. This does not mean that 71% imports actually were brought in under OGL and REP. It only gives the proportion that can be imported under less restrictive categories.

36. The only other year that estimates of imports by licensing category was made was 1980/81; when the share of OGL imports was 6.5% in total imports and 7.9% of non-POL imports. These ratios have increased to 20% and 25% respectively, which support the hypothesis that the QR regime has marginally relaxed over the 1980s. There is also some indirect evidence that the quantity of imports that are licensed have increased. The premia on imports have been very high in the 1960s and 1970s (Panchamukhi, 1978); increasing from 100% to 200% for many products. These rates have come down significantly in the 1980s (Pursell, 1988; Kishore, 1989). The average premia on REP licenses have been around 0-20% for most products. The decline can be attributed to currency devaluation after 1986, doubling of tariffs on imports of manufactured goods during the 1980s (Aksoy and Tang, 1991). By 1988, almost no product had consistently high import premia.

37. On the other hand, Table 2 also confirms that Indian import regime is still very restrictive. Imports on OGL are only 20% of all imports and constitute only 1.5% of total domestic output. In manufacturing, which is supposed to be relatively more liberalized, share of OGL imports in gross output is only 2%. The rest of imports (which are only 9% of domestic gross output in manufacturing) are further restricted through various licensing systems. The bulk of raw materials in energy and minerals subsectors are canalized. Even in manufacturing, 33% of imports are still canalized by public sector importing agencies.

38. Table 2 also illustrates another problem of the import regime, namely its non-transparency. Despite best efforts, more than 30% of the HS codes and 20% of imports could not be classified. This lack of transparency creates tremendous problems for importers and producers in India. Every item that is not exactly specified in the Import document will be questioned by CCI&E, customs, and banks (which release foreign exchange) separately, leading to

delays in imports and disruptions in the production activity. So simplification and streamlining of the import policy according to international standards, such as HS codes, would by itself improve the system considerably.

39. Within the manufacturing sector there are large differences among industries in terms of restrictiveness of imports. The share of imports classified under OGL varies between 0% and almost 50%. Imports of raw materials such as chemicals, metals and food products are primarily canalized. Only three subsectors, chemicals (40%), machinery (27%) and electronics (40%) have significant amount of OGL imports. Since 1984, special policy packages have been introduced for petrochemicals, electronics and machinery, that contain partially liberalized import regimes. However, over the last two years, even these sectors have begun to experience more import restrictions.

40. Looking at the share of imports under different licensing categories gives a misleading picture of the nature of QRs in Indian economy. All the items that are not imported due to restrictions are excluded from the base, which only include the imported items. For example, if one just looks at number of HS codes under QRs, then about 46% of the codes are in restricted category (as compared to 20% of imports) and only 19% are in under OGL. A more meaningful analysis would be to estimate the share of output protected by QRs. Table 3 presents the distribution of HS codes by licensing categories, weighted by gross outputs of each industry within the subsectors.5/

5/ The distribution of HS codes in each industry is assumed to be the same as the distribution of output in that industry. Then these rates are weighted by gross output shares of each industry within that subsector. Within agriculture, for example, there are 22 activities (industries). In each of these activities, there is a distribution of HS codes by licensing categories. The distribution of HS codes for the whole agricultural sector is weighted by the gross outputs of each of the 22 activities. Other subsector ratios are similarly weighted by the gross outputs of industries within that subsector.

TABLE 3: DISTRIBUTION OF HS CODES BY LICENSING CATEGORY (%)
(weighted by domestic gross output)

	Number of Industries	Banned & Restricted	Limited Permissible	OGL	Canalized	Total	Unknown /a
AGRICULTURE	22	74.0	3.0	7.0	15.0	100.0	36.0
ENERGY	2	0.0	0.0	0.0	100.0	100.0	62.0
MINERALS	7	24.0	20.0	31.0	24.0	100.0	58.0
MANUFACTURING	67	52.0	28.0	12.0	8.0	100.0	21.0
Food, Beverages, and Tobacco	7	90.0	1.0	0.0	8.0	100.0	11.0
Leather and Textiles	10	55.0	43.0	2.0	0.0	100.0	8.0
Petroleum and Coal Products	3	24.0	26.0	8.0	42.0	100.0	41.0
Chemicals	9	17.0	43.0	32.0	8.0	100.0	32.0
Non-metallic Minerals	3	30.0	31.0	37.0	2.0	100.0	36.0
Metals	4	12.0	36.0	7.0	45.0	100.0	12.0
Metal Products	2	36.0	46.0	18.0	0.0	100.0	44.0
Machinery	10	42.0	24.0	34.0	0.0	100.0	31.0
Electrical Appliances and Electronics	3	27.0	46.0	22.0	5.0	100.0	13.0
Transport Equipment	6	40.0	30.0	30.0	0.0	100.0	45.0
Others	7	49.0	16.0	35.0	1.0	100.0	43.0
TOTAL	98	56.0	24.0	11.0	9.0	100.0	24.0

/a These are given for information only. In the calculations they are distributed to known categories, so that totals include all HS codes.

41. As shown above, the share of output-weighted HS codes under restricted licensing is much greater than the share of imports. For example, in manufacturing, while only 23% of imports are restricted, more than half of the output-weighted HS codes are in the restricted list. If the unknown category is also assumed to be restricted, then almost three quarters of output-weighted HS codes are in the most restrictive licensing category.

42. The distribution by manufacturing subsectors displays similar patterns. The proportion of HS codes that is in the restricted list for consumer goods such as food, textiles and other manufacturing subsectors is very high. In chemicals and metals, which are the key intermediates, the share of the restricted list is much lower. In chemicals the share of OGL (32%) is much higher while metals are basically protected through canalization. What is surprising is: despite attempts since 1978 to increase the items in OGL lists, the share of output-weighted HS codes under OGL is only 34% in

machinery, 7% in metals and 32% in chemicals. If the unknown category is also treated as restricted per Import Policy, the share of OGL for machinery comes down to about 24%, while the share of restricted list increases to 56%. However the information in Table 3 is classified or interpreted, the import regime in India, even in subsectors which are supposedly liberalized, is still very restrictive.

B. THE STRUCTURE OF TARIFFS 6/

43. The relatively high level of import taxes (tariffs) in India makes them an important source of government revenue and a major influence on the pattern of development. Import tariffs are the second largest source of government revenue (excise taxes are the largest) and have been the most rapidly growing major source of revenue during the 1980s. They provided about 35% of the Central Government and 26% of the combined Central and State Government revenue in 1987-88 and have increased 7.4% p.a. faster than nominal GDP during the 1980s.

44. India's customs tariff consist of three parts: (i) basic customs duties applied to the c.i.f. price of the import; (ii) an auxiliary duty, also applied to the c.i.f. price; and (iii) "additional" or "countervailing" (CVD) duties applied to the c.i.f. price plus the basic customs duty and auxiliary duty. Basic customs duties are mostly ad valorem, though there has been a recent increase in the number of specific rates. Auxiliary duties are always ad valorem. CVDs are usually equal to excise tax imposed on locally produced goods and are a mixture of ad valorem and specific rates. In November 1989 basic duties ranged from 0% to 355%; auxiliary duties from 0% to 45% and CVDs from 0% to 50%.

45. Additional or countervailing duties are subject to MODVAT in exactly the same way central excise is. Buyers of imported goods can deduct CVDs paid on material inputs when calculating their excise obligation on outputs. Hence,

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6/ This section is written jointly with Umnuay Sae-Hau.

where they are equal to excise taxes, CVDs do not provide protection to domestic producers Basic customs duties and auxiliary duty, together, provide an indication of potential tariff protection.

46. At first glance the tariff schedule appears very simple, with quite uniform basic customs duties for individual chapters. In practice the structure of customs duties is complex because there are a very large number of "exemptions" (zero or reduced rates) that must be traced separately for all three components, to ascertain the relevant rate for an individual commodity. These exemptions are so numerous that the table of scheduled tariff rates is virtually irrelevant. Almost all scheduled tariff rates are superseded by exemptions giving lower rates. Moreover, these exemption notification are frequently changed, making it even more difficult to ascertain the relevant customs duty rate for a particular good at any given time. The effective duty rate for aluminum ingots, for example, has changed seven times since February 1987. Over 18 months the basic duty changed from 25% to 35% to 3,700 Rs/ton to 60% to 2,000 Rs/ton to 1000 Rs/ton to 500 Rs/ton and finally to 2,500 Rs/ton.

47. Another complication is that exemption notifications do not always apply to commodities irrespective of end use. Frequently, they are user specific. In the analysis of nominal tariff rates, only the general exemptions have been taken into account. The magnitude of user specific exemptions can be only observed through comparing trade weighted tariff rates with actual collections. Such exemptions were provided to the leather industry in 1979 and again in 1985. Materials, components and parts face lower duties when used in the electronics industry. So do components when used in the manufacture of fuel efficient cars. The extreme example is given by Pursell (1988) where stainless steel had eleven different tariff rates depending on the user.

48. There are two characteristics of the Indian tariff system that separate it from those of other LDCs. First, the absolute levels of tariffs (both nominal and collection rates) are very high. Second, again unlike many other countries, the tariff rates are increasing. Table 4 gives the comparative tariff collection rates for a group of comparable countries. As can be seen from the table, tariff collection rates are two to five times higher in India then in comparable countries.

TABLE 4: CROSS-COUNTRY COMPARISON OF INDIA'S CUSTOMS TARIFF STRUCTURE

	IMPORT DUTY AS A PERCENTAGE OF IMPORTS		IMPORT DUTY AS A PERCENTAGE OF TAX REVENUE	
	1980	1987	1980	1987
India	29.7	61.9	24.8	34.8
Pakistan	24.6	24.7	34.8	38.8
Bangladesh	19.8	17.9	39.1	38.7
Indonesia	4.7	4.7	4.5	6.4
Thailand	10.1	11.1	21.8	20.6
Turkey /a	39.1	11.8	12.3	17.8
Brazil	16.0	8.7	8.7	2.5
Mexico /b	11.0	3.9	7.7	6.5

/a The figures for Turkey cover years 1979 and 1987.
/b The figures for Mexico cover years 1980 and 1988.

Sources: Except for Turkey, Indonesia and Pakistan, all revenue figures are from IMF: Government Finance Statistics Yearbook, 1989; and all import figures (CIF) are from UN: 1987 International Trade Statistics Yearbook, 1989.

49. Table 4 compares India's customs tariff collections with those of selected countries in 1980 and 1987 in terms of (i) percentages of imports which measure the protection given by the tariff system, and (ii) tax-revenue shares, which measure the importance of customs collections as a source of public revenue. In most developing countries, these represent the two main objectives of customs tariff. As a percentage of imports, India has by far the highest customs collections rate in the sample. At 61.9%, its tariff collection rate is more than twice Pakistan's 25%. Rates for the rest of the sample range from 4.7% in Indonesia (1986) to 17.9% in Bangladesh (1987). What is equally striking about India's customs collection rate is that it has been rising very rapidly over time - more than doubling in seven years (from 29.7% in 1980 to 61.9% in 1987). While part of the increase is due to relaxation of QRs, the collection rates have increased in almost all sectors. The only other country that has liberalized its trade regime but still has relatively high tariffs is Turkey. Part of this is caused by the liberalized import of luxury consumption goods which attract higher taxes and special extra levies. For the rest of the sample, actual tariff rates either remained little changed or, as in Brazil, Mexico, and Bangladesh, actually declined.

Between 1980 and 1987, Brazil's collection rate dropped dramatically, from 16.0% to 7.1% while in Mexico it fell from 11% in 1980 to 3.9% in 1988.

50. As a share of tax revenues, India also ranks high in the sample. Import duties represented 34.8% of India's central government tax revenues in 1987. Although this is not as high as Pakistan's at 40.9% or Bangladesh's at 38.7%, it is far above those of other countries where rates range from 6.4% in Indonesia to 20.6% in Thailand.

51. When compared with the other countries in the sample, dispersion of India's customs tariff appears surprisingly low (Table 5). On the basis of nominal tariff rates, India has a coefficient of variation of 0.36, compared with 0.44 for Brazil and 0.81 for both Pakistan and Thailand.

52. The above comparison shows that India has an extremely high effective customs tariff rate and that the rate is high across the board as indicated by the relatively low dispersion of its tariff rates. Share of tariffs in total tax revenue, although not as high as Pakistan and Bangladesh, is very high.

TABLE 5: CROSS-COUNTRY COMPARISON OF DISPERSION OF NOMINAL CUSTOMS TARIFF

Nominal Tariff Rate	India 1988	Pakistan 1986	Thailand 1985	Brazil 1989
a. Mean	141.2	65.6	33.8	43.0
b. Standard Deviation	50.4	53.2	27.3	19.1
Coefficient of Variation, b/c	0.36	0.81	0.81	0.44

The Existing Tariff Structure

53. Table 6 presents India's customs tariff structure by subsectors. For each subsector, three tariff rates are given: (i) nominal, (ii) import-weighted, and (iii) collection rates. Tariff rates are further subdivided into "protective" and "total" tariff rates. Protective tariff is simply the sum of basic and auxiliary tariffs while total tariff equals protective plus countervailing (CVD) duty. Nominal tariff rates are based on the 1989-90 customs tariff schedules, while the collection and import data are for

1987/88. Since there has been only marginal changes in the nominal tariff rates this should not affect the analysis significantly.7/

TABLE 6: INDIA'S 1987/88 CUSTOMS TARIFF STRUCTURE

	% DISTRIBUTION OF		NOMINAL TARIFFS		TRADE-WEIGHTED TARIFFS		COLLECTION RATES	
	Imports	Customs Duties	Protective	Total	Protective	Total	Protective	Total
AGRICULTURE	4.3	1.6	87.8	90.3	37.5	39.7	21.7	22.0
ENERGY	14.6	14.2	92.6	115.1	60.7	60.7	55.8	56.8
MINERALS	1.9	0.8	99.5	103.6	24.3	27.5	20.6	23.1
MANUFACTURING/a	79.2	83.4	119.5	146.9	83.3	105.4	57.1	65.9
Food, Beverages and Tobacco	3.9	4.1	135.1	147.1	80.7	89.8	60.3	61.2
Textiles and Leather	1.1	1.4	136.1	158.4	119.8	170.4	44.1	72.6
Petroleum and Coal Products	4.9	2.7	127.0	174.1	13.1	32.2	12.6	32.6
Chemicals/b	13.7	20.4	118.3	156.4	94.0	123.7	70.5	87.8
Non-Metallic Minerals/c	9.5	0.8	126.3	171.0	118.3	168.3	64.5	79.7
Metals	11.3	15.6	117.2	132.9	88.1	100.5	71.0	80.5
Metal Products	1.2	1.1	131.0	168.0	97.7	129.6	45.4	57.0
All Machinery	21.3	24.8	92.2	109.6	89.5	101.4	62.9	67.6
Electrical Appliances and Electronics	3.6	3.9	105.1	144.6	97.1	131.1	52.1	63.0
Transport Equipment	2.2	2.2	95.7	125.7	73.5	88.9	51.9	59.7
Others/d	6.5	6.4	115.2	147.4	53.2	68.6	26.0	32.4
TOTAL/a	100.0	100.0	116.0	141.2	72.3	85.5	54.7	61.9

/a Based on reported total imports and collections, i.e., with no adjustments.
/b Excluding tariff chapters 98 and 99 which have collection numbers but no recorded imports.
/c Excluding gem imports for export production.
/d Excluding tariff chapters 98 and 99 in Miscellaneous Manufacturing.

54. Nominal Tariff. The nominal tariff rates shown in the table are simple averages. India's average nominal protective tariff for 1989-90 is about 116%, with a standard deviation of 37%, while the average total tariff is about 142%, with a standard deviation of 51%. The difference between the two implies an average CVD rate of about 25%.

7/ More detailed tariff rates are presented in Appendix B.

55. The nominal protective tariff rates are quite bunched together around 100% with raw material supplying industries such as agriculture, energy, minerals with tariffs of less than 100%, while the other sectors have protective rates of more thar 100%. The only exceptions are machinery and transport equipment. For total tariff rates, all rates except agriculture, are significantly above 100%.

56. Import-Weighted Tariffs. The protective and total tariff rates weighted by imports are lower than nominal rate by about 40 percentage points, with wide variation among different subsectors. The protective imported weighted tariff rates are 72% for the whole economy and 83% for the manufacturing sector. Total tariff rates are 86% and 105% respectively. The variance among different subsectors are greater for import weighted tariffs than the nominal ones. Goods that are allowed to be imported have significantly lower tariffs; indicating that imports are restricted to products that are not available in India.

57. Actual Collection Rates. Actual collection rates are less than one half of the legal nominal rates and are on average 30 percentage points lower than trade weighted rates. The difference between trade weighted and actual protection rates are due to specific exemptions (specific to users) and duty free imports for export production. For example, in non-metallic minerals subsector duty free imports of rough diamonds for processing into exports are excluded. In other subsectors, it is not possible to separate duty free imports for exports. However, total duty free imports (excluding gems) were 4.4% total imports in 1987/88. The total tariff collection rate on manufactured goods imports excluding duty-free imports for exports was 80%, compared to 65.9% for all manufactured goods imports.

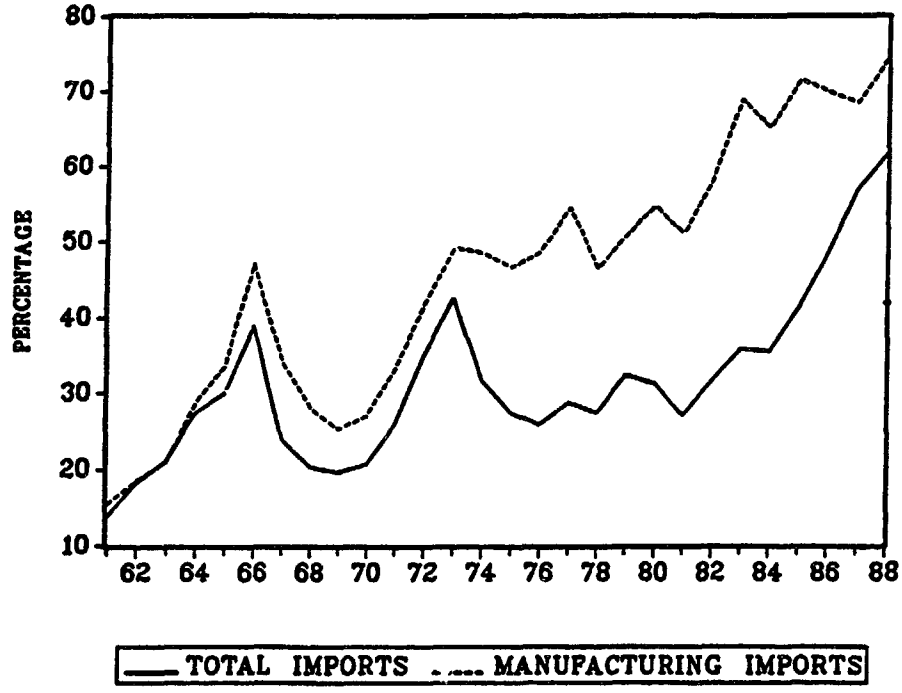
58. The collection rates although lower than nominal or trade weighted rates, are also very high with protective tariffs of 55% and total tariff of 62%. Moreover, protective tariff rates are highest in three subsectors which have a strong cost impact on the rest of the economy; metals (71%), chemicals (70%) and machinery (63%). Furthermore, these the subsectors also account for about 45% of all imports. The sectoral average tariff rates given in Table 6 mask the very high rates in some key industries within sectors. For example, protective tariff rates are 106% and 122%, respectively, in organic heavy

chemicals and other chemical industries, compared to the average of 70% for chemicals as a group. In non-ferrous metals, the protective tariff collection rate is 82%. For most industrial machinery imports, the rate was 75%. These rates can only be justified as trying to earn maximum revenue from a very small import base. Very few of the firms in these sectors require these levels of protection for their viability (Aksoy and Ettori, 1991).

Evolution of Tariff and Excise Tax Collection Rates

59. During the 1980s, the tariff collection rates for most countries have been decreasing as they move away from overvalued exchange rates and liberalize their trade regimes. In India, the opposite has happened. Historically, to contain balance of payments crises, tariff rates were increased instead of adjusting the exchange rate. However, these rates were not reduced when the exchange rate was eventually adjusted. Thus with every foreign exchange crisis, the average tariff collection rate has ratcheted upward to a higher plateau. Figure 1 shows tariff collection rates since 1960/61 for total and manufacturing imports (total imports minus food, fuels (POL), and gems).

FIG. 1 TARIFF COLLECTION RATES



60. The tariff rates were brought down after the 1966 devaluation to eliminate excess protection. Since 1970, however, tariffs on manufactured imports have not been adjusted for exchange rate depreciation. Tariffs were raised during 1965-74, even before the oil shock, to arrest declining reserves. The devaluation of 1976, while leading to decline in total tariff collections (primarily due to decreasing tariffs on fuels), did not lead to reductions in tariffs on manufactured products. The rapid increase in tariffs between 1980/81 to 1984/85 again correspond to a period of appreciating exchange rates when tariffs were substituted for the exchange rate adjustments. As was the case in the mid 1970s, the rates were not adjusted down with the currency depreciation after 1985. One reason for this was the increasing public deficit and the need for additional custom revenues. This ratcheting adjustment, where protection has increased irrespective of the exchange rate, has gradually delinked Indian price structure from the rest of the world.

61. Total tariff collection rates include not only the protective tariffs but countervailing tariffs which match the excise taxes levied on domestic production. Unfortunately, it is not possible to separate these two types of tariffs for earlier periods. In addition, the structure of domestic excise taxes have changed over time. To analyze these changes, the input-output tables for 1973/74, 1978/79 and 1987/88 have been used to derive estimates of tariff and excise tax rates for different subsectors and are presented in Table 7. Although the original input-output tables are more disaggregated, only the summary statistics are presented here.

TABLE 7: TARIFF AND EXCISE COLLECTION RATES (%)

	TARIFF RATES			EXCISE RATES		
	1973/74	1978/79	1987/88	1973/74	1978/79	1987/88
AGRICULTURE	13.08	24.19	22.01	0.41	0.19	0.01
ENERGY	0.00	0.94	55.30	0.00	5.56	0.78
MINERALS	3.00	15.07	23.15	0.00	0.14	0.96
MANUFACTURING	37.40	39.65	65.22	12.59	9.72	7.03
Food, Beverages and Tobacco	28.79	2.18	60.72	11.70	9.23	7.41
Textiles and Leather	7.44	52.96	72.12	3.97	6.72	3.85
Petroleum and Coal Products	78.07	40.55	32.64	232.77	47.77	16.70
Chemicals	31.49	57.59	87.23	13.55	8.54	6.56
Non-Metallic Minerals	12.00	5.40	4.67	7.30	6.69	15.74
Metals	34.83	61.12	80.18	8.72	8.56	4.33
Metal Products	59.22	49.98	56.77	9.66	4.77	3.25
Machinery	37.39	49.98	67.28	1.55	3.85	7.44
Electrical Appliances and Electronics	75.21	26.37	58.29	14.21	10.97	8.48
Transport Equipment	39.24	63.90	58.00	3.58	4.37	7.45
Others	32.64	31.93	56.14	5.42	7.15	2.94
TOTAL	32.02	31.75	61.22	5.49	5.14	4.78

Source: Data for 1973/74 and 1978/79 are from the five-year plans respectively. 1987/88 has been estimated for this study.

62. Table 7 indicates the rapid increase in tariff collection rates, especially between 1978/79 and 1987/88, and the decline in excise collection rates.8/ The changes in energy tariff and excise tax collections reflect the decline in international oil prices which have not been fully passed on to domestic users. For domestic oil production, the excise rates have been reduced while ex-factory prices have stayed high, leading to large profits to ONGC, etc.

63. For manufacturing, the trends are very clear. The tariff collection rates have increased from about 40% to 65% between 1979 and 1988 while domes-

8/ The 1973/74 data on tariff rates are probably less indicative of protection due to very high import premia caused by QRs which were more binding in those years.

tic excise collection rate has come down from about 10% to 7%. This by itself would increase the protection given to the domestic producers.

64. There are a few exceptions to the general trend toward increasing tariffs and decreasing excise taxes. Tariff rates have fallen in three subsectors: petroleum and coal products, non-metallic minerals, and transport equipment. In non-metallic minerals, this is caused by the increase in the share of rough diamond imports for export production, which are imported duty free. In transport equipment, share of imports of motor vehicles (which has the highest tariff rate) in the total has declined, and its tariff collection rate has been reduced from 107% to 75%. The shares of ships, rail equipment and scooter imports which have lower tariff rates (32%, 40% and 39% respectively) have increased. These changes have led to a small reduction in overall subsector tariff rate.

65. There are also three exception to a general decline in excise rates; non-metallic minerals, machinery, and transport equipment. In non-metallic minerals, the share of cement output, which has an excise tax rate of 32%, has increased from 10% in 1979 to more than 30% in 1988. Also, excise collection rates for other non-metallic mineral products have increased from about 1% in 1979 to almost 15% in 1988. In transport equipment, only motor vehicles subsector was levied 10% excise tax in 1979. By 1988, all the subsectors within transport equipment were brought into the excise tax net. Ships and boats, rail equipment and scooters have excise collection rates of 21%, 5% and 12% respectively. In the machinery subsector, the excise rate increases have been across the board with large increases in basic machinery (especially non-electrical industrial machinery) with some marginal reductions in office and communications equipment.

66. In some respects the changes in excise taxation are as distortionary as the large increase in tariffs. Between 1979 and 1988 the excise tax burden on consumer and other intermediate goods decreased, while the tax burden on investment goods increased.9/ The three sectors where excise tax rates rose

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9/ One possible reason for the decline in excise rates might be the expansion of small scale (SSI) and tiny units which either pay a lower rate (SSI) or are outside the excise net all together (tiny units).

are machinery, non-metallic minerals and transport equipment. These sectors constitute the three elements of fixed investment. Thus the burden of taxation has switched from consumption to investment. This is the reverse of what is happening in other countries, where the burden of taxation is being switched from investment to consumption via the value-added taxes.

67. It should be pointed out that India is almost unique in levying such high taxes and tariffs on capital goods. Most other countries usually exempt machinery from import duties and domestic taxes. For example, in Brazil which has had very high protection for the domestic capital goods industry, the tariff collection rate in 1984 was 17% in non-electrical and 11% in electrical machinery. In Korea, the tariff collection rates on machinery for domestic use was about 9% during the late 1970s and early 1980s. Tariff collection rates on machinery for export use was negligible. Even in Pakistan (which has the second highest overall tariff collection rate after India) the tariff collection rate on machinery was 15% in 1987/88. In comparison, the average tariff collection rates on machinery in India were about 75% in 1983/84 and 67% in 1987/88.

Tariffs and Quantitative Restrictions

68. The substantial increase in tariff collection rates in the 1980s have been attributed to the relaxation of QRs. That is, the QRs have been replaced by tariffs thus increasing the overall tariff collection rate. Unfortunately, this hypothesis can not be tested directly due to lack of detailed time series data. However, if this hypothesis is correct, then imports under less restrictive import categories should have higher tariffs than imports under more restrictive categories. Table 8 presents tariff collection rates for different subsectors separately for imports under different licensing schemes.

TABLE 8: CUSTOMS COLLECTION RATES BY LICENSING CATEGORY AND SECTOR, 1987/88
(as % of respective imports)

	BANNED/RESTRICTED		LIMITED PERMISSIBLE		OGL		CANALIZED	
	Protective	Total	Protective	Total	Protective	Total	Protective	Total
AGRICULTURE	22	22	20	20	20	20	27	28
ENERGY	-	-	-	-	-	-	59	60
MINERALS	36	38	-	-	84	100	2	2
MANUFACTURING	77	82	56	68	51	66	49	59
Food, Beverages and Tobacco	23	23	5	5	101	102	37	37
Textiles and Leather	61	107	24	80	37	59	-	-
Chemicals/a	85	107	82	97	67	96	62	63
Non-Metallic Minerals/b	26	29	60	77	63	100	65	91
Metals	20	21	70	79	58	66	93	105
Metal Products	-	-	39	50	69	85	-	-
All Machinery/c	93	95	44	53	37	42	-	-
Electrical Appliances and Electronics	132	162	49	54	41	55	132	172
Transport Equipment	190	273	44	50	81	83	59	78
Others/a	67	84	26	31	45	59	6	7
TOTAL	72	77	56	68	48	62	51	57

/a Excluding tariff chapters 98 and 99.
/b Excluding imports of unworked gems.
/c Project imports are assumed to be restricted.

69. Table 8 clearly shows that the tariff rates are highest for commodities in the restricted list and items under OGL and limited permissible categories have the lowest rates. This result is not caused by different types of products being assigned to different licensing categories (i.e., consumer goods being in restricted category). Even for similar product groups, tariff rates for products in OGL are much lower. In chemicals, metals and machinery, the key subsectors which are all intermediate products, OGL imports have lower tariffs than imports in more restrictive categories.

70. Table 8 also illustrates the overkill in terms of protection both by QRs and tariffs. In metals, the bulk of imports are canalized and the canalized items have the highest tariff rates. In chemicals, it is the restricted and

limited permissible items that have the highest tariff rates.10/ Similarly in machinery, OGL imports have the lowest rates which support the hypothesis that most of these machines probably do not compete with domestic production.

71. These findings lead to three main conclusions. First, it is quite difficult to relate the increases in tariffs to relaxation of QRs. They are probably caused by revenue or other considerations. Second, given much lower tariffs on OGL imports, these products probably do not compete with domestic production. Third, given the tariff collection rates on restricted products, most of the QR system is probably redundant.

Excise Taxes and Excisable Output

72. The excise tax rates presented in Table 7 was derived from the gross output data estimated for the input-output table and thus includes output of small scale sector that is either not taxed or taxed at a lower rate. The Revenue Department also collects information on value of excisable output.11/ The excise tax rates on excisable output are much higher. While the excise collection rate on gross output for the tradable sectors is only 4%, it is 21% on excisable output which indicates that excise base is only about 20% of gross tradeable output. Part of this discrepancy arises because most of agriculture is outside the excise net. However, the situation is not very different in other sectors. Table 9 presents the excise tax rates on gross output from the input-output table and the rates estimated on excisable output supplied by the Revenue Department. A more disaggregated table is given in Appendix B. The excise numbers are net of MODVAT credit and are the net tax burdens on each subsector. Although both the output numbers are estimates, they indicate that a significant portion of output stays outside the excise net. The remaining (mostly large scale firms and few product lines) have very high rates of excise taxation.

10/ With an average protective tariff collection rate of 130%, one wonders whether any imports would take place in the chemicals subsector, even if the import restrictions are eased.

11/ Since many excise taxes are specific taxes levied per unit of physical output, these value of output data are estimates and are not very reliable.

Table 9: CENTRAL EXCISE COLLECTION RATES (%)

	Excise Rate on Gross Output	Excise Rate on Excisable Output	Ratio of Excisable Output to Gross Output
AGRICULTURE	0.0	11.0	0.0
ENERGY	1.0	3.0	26.0
MINERALS	1.0	17.0	6.0
MANUFACTURING	7.0	21.0	33.0
Food, Beverages and Tobacco	7.0	22.0	33.0
Leather and Textiles	4.0	29.0	14.0
Petroleum and Coal Products	17.0	48.0	35.0
Chemicals	7.0	17.0	39.0
Non-Metallic Minerals	16.0	21.0	76.0
Metals	4.0	22.0	20.0
Metal Products	3.0	11.0	28.0
Machinery	7.0	13.0	59.0
Electrical Appliances and Electronics	8.0	24.0	35.0
Transport Equipment	7.0	13.0	58.0
Others	3.0	12.0	25.0
TOTAL	4.0	21.0	21.0

73. Even within manufacturing, about two-thirds of output are outside the excise net. As pointed out above, the accuracy of excisable output figures are highly suspect and that could be one reason for the underestimation of the excise base. However, the difference between the excisable base and gross output is so large that it is hard to attribute it to data inaccuracies.

74. The main problem of the excise tax structure is that few sectors, because of the scale of production, are incorporated into the excise net while others are basically left out. Part of this exclusion is by choice where Government has decided not to tax agriculture, drugs, fertilizers and pesticides. However, the other part is due to the existing excise tax policy and administration which focuses its tax collection effort on a few commodities that are more easily taxable.

75. The outcome of this system is that, the tax burden falls on a few sectors that are basically investment goods and key intermediates while the tax rates on consumer goods are much lower. The share of excisable output to

gross output is very high in non-metallic minerals (76%) which is basically cement, machinery (59%) and transport equipment (58%). These are all investment good producing sectors, while the overall excise coverage on goods for final consumption is far lower. Some consumer products, however, are taxed excessively, for example, synthetic fibers, tobacco products, rubber products, batteries, etc.

C. EXPORT POLICIES AND ADMINISTRATION

76. India has a number of very elaborate export incentive schemes that match the complexity of the import and tariff systems. The first set of controls involves quantitative restrictions on exports and export taxes. The second set of administrative arrangements involves compensating exporters for the domestic and import taxes and allowing them to import otherwise restricted products for export purposes.

Export Controls

77. Exports are subject to a licensing regime which is announced in the Import-Export Policy and administered by the Chief Controller of Imports and Exports (CCI&E). In mid-1988 approximately 172 products were listed in the schedules of the Export (Control) Order and their export was subject to some kind of control. These lists consisted of the following: (a) Sixty seven products or product groups the export of which was "not allowed"; (b) a list of 30 items the export of which was allowed "on merits"; i.e., decision on the export of such products are made on a case by case basis by the export Licensing Committee under CCI&E in New Delhi; (c) a list of 21 items the export of which is allowed against "limited ceiling," i.e., export quotas which are announced and allocated to exporters each year; (d) a list of 19 items the export of which is canalized; and (e) a list of 33 items the export of which is on open general license subject to prescribed conditions.

78. Like import licensing, the export licensing system is intended to serve a variety of purposes. One important purpose is to ensure that indigenous production will be sold in the domestic market when the supply is less that domestic demand and not exported. They are also used to implement canal-

ization of certain products take advantage of what is supposed to be India's ability to increase world prices by regulating its export supply. Examples are iron ore, mica, rutile and other minerals, sugar, raw jute, tea and coffee. Another objective is to help promote exports of "higher value added" downstream products which use the exportable products as inputs. This is a motive for banning exports of various primary and intermediate products (raw hides and skins, wool waste, angora goat hair, indigenous raw wool above a certain quality, oil seed expeller cakes, calcined bauxite) or controlling the quantities exported (cotton, cotton yarn, woollen yarn raw silk, silk yarn, semi processed hides and skins). The export controls are also used to regulate exports of products subject to quotas in importing countries (notably textile and garment exports subject to import quotas allowed by the Multi-Fibre Arrangement). Canalization has also been used to subsidize exports of certain commodities. For example, during the 1980s, Minerals and Metals Trading Corporation's (MMTC) exports (notably iron ore) have been cross subsidized by its canalized imports of non-ferrous metals and fertilizer. MMTC's canalization of iron ore exports, has also been used to subsidize certain high cost mines, the cost being covered by the iron ore mines with lower production costs and/or lower transport costs to the ports.

79. Recognizing the inefficiencies associated with quantitative export controls, the 1988-91 Import Export Policy reduced the number of products subject to these controls by 69 to 172, and considerably simplified the export licensing rules (although they remain complex and comprehensive by most international standards). Furthermore, during the 1980s, export taxes have declined across the board.

Export Incentives

80. There are seven principal types of incentives to promote exports in India: (a) cash compensatory support (CCS); (b) duty drawback; (c) import replenishment licenses; (d) advance licenses and passbooks; (e) free trade zones and export oriented units (EOU); (f) interest and income tax rebates; and (g) International price reimbursement scheme (IPRS).

81. These selective export incentive schemes were first introduced in the 1959/60-1965/66 period. This was a period of balance of payments pressure and

foreign exchange scarcity which was tackled with tight import controls. However, these ad hoc import allocation rules adversely affected export performance, and product-specific export subsidies were introduced as countermeasures. Since then, these export incentive schemes have undergone phases of varying tightness and expansion.

82. The Cash Compensatory Support (CCS) was introduced in August 1966. CCS is designed to compensate for unrebated indirect taxes paid by exporters on inputs that enter into export production, neutralize disadvantages implicit in freight rates, etc., and to provide assistance to finance the initial promotion costs in the case of new products and markets. The CCS involves the largest single direct budgetary outlay in support of exports. The CCS rates are product specific and are announced regularly.

83. The Duty Drawback (DD) was introduced in 1954. The objective is to reimburse exporters for tariffs paid on the imported raw materials and intermediates and for the central excise duties paid on domestically produced inputs which enter into export production. At present there are more than 450 items on the standard list of exports eligible for DD. In addition, firms can apply for "brand" rates specific to their products.

84. Replenishment (REP) Licenses. The earliest and still the principal method of giving incentives to exporters is the special import licenses for exporters, known as Replenishment (REP) licenses. Combined with duty drawback and cash compensation (CCS), REP licenses allow the exporter to import certain restricted raw materials and components; i.e., raw materials and components appearing on the lists of limited permissible and canalized items in the Import-Export policy. The imports pay normal customs duties, but refunds can be claimed through the duty drawback scheme. The exported products for which REP licenses can be obtained are listed in the Import-Export policy, together with the foreign exchange value of the REP license (expressed as a percentage of the f.o.b. value of the export) and a list of the importable raw materials each with its own foreign exchange ceiling also expressed as a percentage of the f.o.b. value of the export. The REP licenses can be sold on the open market. During the 1960s and 1970s, because of import controls and foreign exchange rationing, REP licenses often could be sold at high prices ("premiums"). These constituted a substantial export incentive, provided the

materials incorporated in the exports actually could be obtained at reasonable cost. During the 1980s and particularly after 1985, REP premia declined substantially, probably due to the steadily increasing level of customs duties, some relaxation of import controls and the increased domestic production of many raw materials.

85. Advance Licenses (AL). The problem with imports under REP licenses followed by duty drawbacks is that (a) goods that are in restricted lists can not be imported this way; and (b) given the high import duties exporters tie up considerable working capital, especially if there is any delay in obtaining drawback refund. To reduce this problem, schemes were introduced for duty free imports of raw materials. The most important however, is the advance licensing scheme under which specified materials can be imported duty free on the basis of letters of credit and/or export orders. In order to streamline advance licensing procedures, a new Import-Export Passbook Scheme was announced in April 1985. Finally, there is a scheme under which "Special Imprest" licenses are available for duty free imports of raw materials by Indian firms supplying projects in India subject to international competitive bidding (e.g., World Bank financed projects) or supplying Indian free trade zones. Domestic sales of this kind are know as "deemed exports."

86. Free Trade Zones (FTZ) and Bonded Manufacturing. The government also makes use of free trade zones (FTZs) and bonded manufacturing to promote exports. In 1988 there were two FTZs in operation and four more were being launched. The bonded manufacturing scheme, (known as the "100% Export Oriented Unit" (EOU) scheme) was introduced in 1981. The EOUs are treated as operating outside the domestic tariff area, and hence have the right to import all their requirements free of import licensing controls and import duties. However, significant deficiencies have prevent the achievement of the export potential offered by the bonded export-oriented units (EOUs) and the FTZs. The EOUs are hindered by an onerous customs control system, unnecessary bonding requirement, and by excessive regulatory restrictions. The FTZs are also subject to complex procedures and paperwork. The restricted incentive package and under-funded and decentralized promotion have resulted in few foreign firms locating in the zones. In 1988 it was decided that bonded warehouses and firms in free trade zones could sell up to 25% of their output

in the domestic tariff area (subject to normal import controls and tariffs) and also receive CCS at reduced rates.

87. Subsidies on Domestic Raw Materials. There are also schemes for refunding to exporters the difference between the domestic and world prices of Indian materials. The most important is the International Price Reimbursement Scheme for Steel (IPRS) which was introduced in 1981 and is financed by a charge added to the controlled prices of basic steel products. In 1986 this scheme was extended from basic steel products to alloy steels and later to other metals. There is also a similar subsidy scheme for natural rubber administered by the Rubber Board, (most of the 1980s controlled domestic rubber prices was about 80% to 100% above world prices.) Prices at which transactions actually take place can be extremely difficult to discover, especially world prices.12/ More seriously, if the local raw materials have high production costs as well as high selling prices, and are not being imported, there is a danger that the subsidy will stimulate exports of products that use them, at an overall economic loss to the economy. Finally, both in 1988 and 1989 the fund which finances the IPRS for steel products has ran out of money and exporters have experienced increasing delays (from 4 to 6 months) in receiving funds.

88. Profit Tax and Credit Subsidies. Exporters have received, in one form or another, profit tax concession since the early 1960s. Effective from April 1989, profits from exports were fully exempted from income taxes. There were also provisions for preferential preshipment and postshipment credit at 9.5% later reduced to 7.5% both for up to 180 days. For exports of capital goods and project exports, subsidized term financing (in excess of 180 days) is available from the Export-Import Bank. Export credit guarantees for banks and credit insurance for exporters is available from the Export Credit Guarantee Corporation. Until recently there were no systematic credit subsidies or

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12/ During 1985, 1986 and 1987 the natural rubber subsidy was inadequate and exporters preferred to import under advance licenses rather than buy local rubber. This changed in 1988, however when there was a large increase in world rubber prices. On the other hand in 1987, the IPRS scheme for alloy steels, for which the subsidy is based on the difference between estimated world prices and SAIL's prices, was overcompensating exporters buying alloy steel from mini-steel producers at lower prices than SAIL's.

preferences for exporters as regards term financing. A new scheme was introduced in 1988 which gives a 20% interest rebate on long term loans to firms exporting more than 25% of their output.

89. Recent Reforms. In 1985/86 and more effectively in 1986/8787, the Government started a program to address the issues of export policy. These reforms have been further extended under the new Import and Export Policy for the next three years (1988/89-1990/91) announced in April 1988. A major change has been in the design and administration of the duty exemption scheme (advance licenses and passbook for imported inputs.) In February 1987, the duty exemption system (Advance Licenses) was extended to cover all imported inputs (including raw materials, components, mandatory spare parts and packing materials) for both direct and indirect exporters, based either on a specific export order or past export performance. To facilitate the granting of Advance Licenses (AL), central and regional committees with decision-making powers have been set up and meet weekly or biweekly. In May 1987, the "pass-book" scheme was made operational for firms that have exported for the previous three years and would like to import their inputs for a longer period (e.g., 18 months). In April 1988, the passbook scheme was extended to all firms with sales of more than Rs 150 million, even if they had not exported previously.

90. For firms using domestic and/or duty paid inputs, Duty Drawback (DD) and Cash Compensatory Support (CCS) systems have also been streamlined. The Duty Drawback, which compensates the exporters for customs and Central excise duties, has been considerably simplified and rationalized by the establishment of all industry rates and faster reimbursements. These rates have also been increased to approximate the actual duties and excise taxes paid. For CCS, which compensates the exporters for indirect taxes of all types not covered by duty drawback, the rates have been increased considerably to reflect the actual cost of indirect taxes. In 1987, firms that use duty exemption schemes were also brought under CCS to compensate them for the indirect taxes on local inputs, which allows these firms greater flexibility.

91. The 1988-91 Import and Export Policy, announced in April 1988, has brought further reforms and changes. Important changes were made to the scheme for replenishment (REP) licenses. Now almost all exporters are

entitled to receive REP licenses which are a proportion of their exports. With these licenses the firms can import any items in canalized and limited permissible lists, and can sell these in the domestic market. This policy change, in addition to increasing the incentives for exporting, also contributes significantly to the liberalization of the import regime by making the QRs less binding. The Policy also includes major initiatives to extend export incentives to indirect exporters, i.e., to firms supplying raw materials and components to direct exporters.

92. Important revisions have been made on the rules and facilities for export and trading houses. The previous extremely complex qualifying rules have been replaced by much simpler rules related to the f.o.b. value of exports and net foreign exchange earnings. In particular, these houses will now have full access to the advance license and passbook schemes for duty free materials; receive a more generous allowance to import and stock raw materials for resale to other firms; will be able to import capital goods and otherwise restricted raw materials under "additional" import licenses and sell them in the domestic market.

93. A number of measures have been introduced to make imported machinery and equipment needed by exporters more easily available and at lower cost. First, as discussed below, the machinery and equipment needed by some export oriented industries and industries believed to have export potential was put on the OGL list and the corresponding import tariffs were reduced usually to about the 25% to 40% range. Second, for licenses to import restricted capital goods, a new provision introduced in April 1988 gives "special consideration" to manufacturer/exporters exporting more than 25% of their output or with exports in excess of US$7.7 million in that the import may be allowed on the basis of price and delivery considerations even if the capital goods are available domestically. Third, the greater flexibility allowed in REP and additional licenses among other things applies to imports of capital goods, and should benefit all users of capital equipment including exporters.

94. The 1991-94 Import and Export Policy has brought further improvements. The complicated structure of REP licenses has been simplified and REP licenses extended to service exports. The Government has announced the principle of lowering tariffs on imported machinery in return for export obligations.

"Passbook" scheme, introduced in 1987, have been abolished and replaced by a "blanket advance license" scheme.

Quantification of Export Incentives

95. Incentives are given primarily to manufactured exports in India. Here manufactured exports include exports of chemicals (SITC 5), manufactured goods classified by materials (SITC 6), machinery and transport equipment (SITC 7) and miscellaneous manufactured articles (SITC 8). Table 10 tries to quantify the four principal types of incentives: (a) foreign trade and export promotion (including CCS); (b) duty drawback; (c) import replenishment license premia; and (d) advance licenses and passbooks. Incentives to the manufacturing sector are not applicable to gems and jewelry exports; the latter are excluded from manufactured exports in the derivation of the incentive figures. Table 11 presents the quantification of export taxes, which are primarily imposed on primary exports. Primary exports include exports of food and live animals (SITC 0), beverages and tobacco (SITC 1), crude materials (SITC 2), mineral fuels and lubricants (SITC 3) and animal and vegetable oils (SITC 4). Finally, Table 12 integrates the combined effects of export incentives and taxes on total exports. These tables update and revise the analysis of Kishore (1989).

96. Foreign trade and export promotion measures constitute the largest proportion of total incentives, ranging from 3% to 7% of total exports (Table 12). Within this category, the bulk of the total expenditure is accounted for by the sub-category, Cash Compensatory Support (CCS). The remainder is used to provide assistance for interest on export credit and financial assistance for export promotion including grants-in-aid to approved organizations for export development such as trade fairs and Export Promotion Councils.

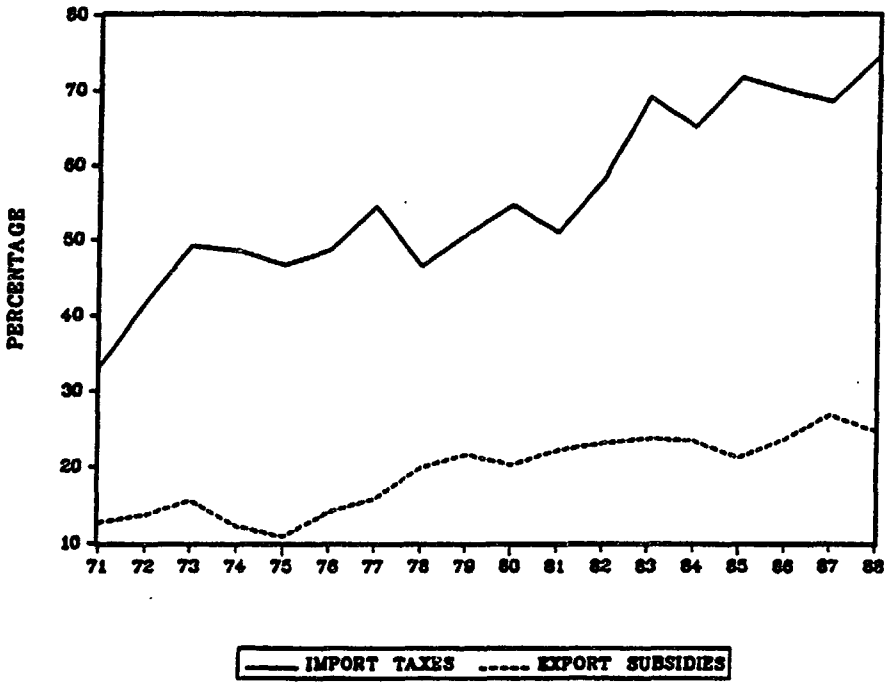
97. The other incentives in decreasing order of magnitude are as follows. Duty drawbacks are the actual amounts reimbursed during that particular year. The premia on REP licenses have been estimated for individual years and the value of the premia is included as an export incentive. For advance licenses and passbooks, the value of import duty saved is included as an incentive. This is calculated by applying the average import duty collection rate on

total imports excluding food, fuels and gems to the value of advance licenses issued. The figures for advance licenses have been lagged by six months to better approximate their actual usage.

98. Other prevalent incentives not included in Table 10 and 12, due to the unavailability of data, include the international price reimbursement scheme (IPRS), free-trade zones (FTZs) and tax concessions for exporting units. These are all becoming increasingly important especially for individual industries.

99. Table 12 shows the generally rising trend of export incentives over the 1970/71-1987/88 period. Export taxes have declined such that, on the whole, net incentives for all exports have increased over time. The table shows two distinct phases of increasing export incentives, 1974/75 to 1978/79 and 1985/86 to 1986/88, with the latter in particular reflecting the intensification of export promotion schemes after 1985.

FIG. 2 IMPORT TAXES AND EXPORT SUBSIDIES



100. The increase in export incentives for manufactured products, although significant, has not kept up with the increase in tariffs on imported items. Figure 2 shows the tariff collection rate on manufacturing imports and the export subsidy rate for manufactured exports. While the export subsidy rates

have increased form about 12% in the early 1970s to about 25% in the late 1980s, they have not kept pace with the increase in tariffs. The ratio of average import tax rate to average export subsidy rate has increased significantly since 1979. However, in certain product groups, availability of advance licenses to import otherwise restricted inputs and more realistic CCS rates have allowed many firms to enter into export markets.

Table 10: Incentives for Manufactured Exports

(excluding gems & jewelry)
(in US$ millions)

	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
Value of Incentives:																		
Foreign trade & export promotion	55.73	72.80	100.69	99.50	110.80	185.70	322.90	405.10	511.60	473.60	505.64	534.10	494.70	447.44	435.77	494.40	618.26	714.82
(of which) Cash assistance				51.00	98.00	98.00	157.90	263.90	378.10	370.60	476.88	506.66	466.14	418.89	n.a	n.a	n.a	n.a
Duty drawbacks	42.67	44.35	51.68	53.90	75.20	92.50	134.20	155.30	182.60	188.21	207.78	228.47	131.91	128.01	126.19	131.57	141.96	190.62
Advance licences (AL)									n.a	150.00	278.73	274.39	275.24	320.02	357.53	351.39	527.68	692.48
Pass-book (PB)									n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	23.46	59.57
Import duty as % of imports	33.21	41.74	49.17	48.51	46.56	48.68	54.56	46.46	50.62	54.77	51.02	56.34	69.08	65.13	71.68	70.05	68.51	74.42
Import duty incentives (AL+PB)										82.16	142.21	160.08	190.14	208.43	256.28	246.15	377.72	559.67
Replenishment licences (REPs)	126.32	125.55	176.38	194.10	208.60	212.70	464.80	665.80	1336.50	1349.10	1801.60	1974.35	2039.36	2225.08	2347.10	2329.00	2778.26	3885.78
Premium on REPs	31.59	31.38	44.10	41.40	34.50	31.70	27.00	46.80	59.90	79.20	66.60	70.84	66.95	66.60	75.68	78.65	87.32	129.00
Total subsidies	129.99	148.53	198.87	194.60	220.50	309.90	484.10	607.20	754.30	823.17	922.22	993.49	883.70	850.47	894.12	950.78	1223.25	1594.11
Value of Exports:																		
Gems & Jewelry Exports	55.92	71.28	102.46	138.64	122.81	172.25	321.03	637.85	869.67	842.33	762.99	852.26	986.50	1170.71	969.72	1153.59	1617.67	2015.42
Manufactured Exports	1082.01	1157.20	1370.96	1740.63	2170.79	2377.45	3392.68	3705.98	4372.08	4727.13	4940.66	5167.81	4726.59	4820.30	5223.06	5201.47	6195.39	8505.69
Manf Exports excluding gems & jewelry	1026.09	1085.93	1268.50	1601.99	2047.98	2205.19	3071.63	3068.13	3502.41	4084.80	4177.67	4315.54	3740.09	3649.59	4253.36	4047.88	4577.72	6490.27
Incentives as % of exports:																		
Foreign trade & export promotion	5.43	6.70	7.95	6.21	5.41	8.42	10.51	13.20	14.61	11.59	12.10	12.38	13.23	12.26	10.25	12.21	13.46	11.01
Duty drawbacks	4.16	4.08	4.09	3.36	3.67	4.19	4.37	5.06	5.22	4.61	4.97	5.29	3.53	3.51	2.97	3.25	3.10	2.94
Value of AL plus PB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.01	3.40	3.71	5.08	5.71	6.03	6.08	8.25	8.62
Value of REP premia	3.08	2.89	3.48	2.58	1.68	1.44	0.88	1.53	1.71	1.94	1.59	1.84	1.79	1.82	1.78	1.94	1.91	1.99
Total subsidies	12.67	13.68	15.52	12.16	10.77	14.05	15.76	19.79	21.54	20.15	22.07	23.02	23.63	23.30	21.02	23.49	26.72	24.56

Table 11: Taxes on Primary Exports

(in US$ millions)

	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
Export Taxes	83.49	98.77	116.56	109.18	113.50	96.28	144.69	267.00	171.16	158.27	149.07	68.56	70.31	78.65	88.69	87.81	77.62	55.12
Primary Exports	951.87	995.28	1176.58	1488.52	1990.78	2255.05	2339.13	2588.31	2578.09	3170.57	3400.67	3335.46	3287.42	3439.46	3315.56	3585.57	3579.78	3848.95
Export Taxes as a % of Primary Exports	8.77	9.72	9.91	7.33	5.70	4.27	6.19	10.32	6.64	4.99	4.38	2.06	2.14	2.29	2.07	1.90	2.17	1.51

Table 12: Incentives for Total Exports

(in US$ millions)

	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88
Value of Incentives:																		
Foreign trade & export promotion	55.73	72.80	100.89	99.50	110.80	165.70	322.90	405.10	511.60	473.50	505.64	534.10	494.70	447.44	435.77	494.40	616.25	714.82
(of which) Cash assistance				51.00	98.00	98.00	157.90	263.90	378.10	370.60	476.88	506.68	468.14	416.89	n.a	n.a	n.a	n.a
Duty drawbacks	42.67	44.35	51.88	53.90	75.20	92.50	134.20	155.30	182.80	168.21	207.78	228.47	131.91	128.01	126.19	131.57	141.98	190.62
Advance licences (AL)									n.a	150.00	278.73	274.39	275.24	320.02	357.53	351.39	527.88	692.48
Pass-book (PB)									n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	23.46	59.57
Import duty as % of imports	33.21	41.74	49.17	48.51	48.58	48.66	84.56	46.46	50.62	54.77	51.02	58.34	69.08	65.13	71.68	70.05	66.51	74.42
Import duty incentives										82.15	142.21	160.08	190.14	208.43	256.28	246.15	377.72	559.67
Replenishment licences (REPs)	126.32	125.55	176.38	194.10	208.60	212.70	464.80	665.80	1336.50	1349.10	1801.60	1974.35	2039.36	2225.08	2347.10	2329.00	2778.26	3685.78
Premium on REPs	31.59	31.38	44.10	41.40	34.50	31.70	27.00	46.60	59.90	79.20	66.60	70.64	66.95	66.60	75.68	78.65	87.32	129.00
Total subsidies	129.99	148.53	198.87	194.60	220.50	309.90	484.10	607.20	754.30	823.17	922.22	993.49	883.70	850.47	894.12	950.78	1223.25	1594.11
Export taxes	83.49	96.77	116.56	109.18	113.50	96.28	144.89	267.00	171.16	158.27	149.07	68.56	70.31	78.85	68.69	87.81	77.62	55.12
Net incentives	46.49	51.76	80.31	85.62	107.00	213.62	339.41	340.20	583.14	664.90	773.14	924.94	813.38	771.83	825.43	862.97	1145.63	1538.99
Total exports	2033.88	2152.49	2547.54	3299.15	4161.55	4632.50	5731.79	6292.29	6948.17	7897.70	8341.33	8503.28	8014.02	8259.76	8538.64	8766.84	9775.17	12152.64
Incentives and taxes as % of Total Exports:																		
Foreign trade & export promotion	2.74	3.38	3.96	3.02	2.66	4.01	5.63	6.44	7.36	6.00	6.06	6.28	6.17	5.42	5.10	5.64	6.30	5.88
Duty drawbacks	2.10	2.06	2.04	1.63	1.81	2.00	2.34	2.47	2.63	2.38	2.49	2.69	1.65	1.55	1.48	1.50	1.45	1.57
Value of AL plus PB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	1.70	1.68	2.37	2.52	3.00	2.81	3.86	4.81
Value of REP premia	1.55	1.46	1.73	1.25	0.83	0.68	0.47	0.74	0.86	1.00	0.90	0.83	0.84	0.81	0.89	0.90	0.89	1.06
Total subsidies	6.39	6.90	7.73	5.90	5.30	6.69	8.45	9.65	10.86	10.42	11.06	11.68	11.03	10.30	10.47	10.85	12.51	13.12
(Minus) Export Taxes	4.11	4.50	4.58	3.31	2.73	2.08	2.52	4.24	2.46	2.00	1.79	0.81	0.88	0.95	0.80	0.77	0.79	0.45
Net Export Incentives	2.29	2.40	3.15	2.60	2.57	4.61	5.92	5.41	8.39	8.42	9.27	10.88	10.15	9.34	9.67	10.07	11.72	12.68

Impact of Trade Regime on Export Profitability

101. As discussed in the earlier sections, the high indirect taxes both on key inputs and capital goods, import restrictions and overvalued exchange rates have marginalized export activity in India. Furthermore, targeting concessions on capital goods tariffs to selected export oriented activities (such as gems and jewelry, garments, leather products, etc.) has narrowed down the range of exports (Aksoy and Tang, 1991). During the last few years, adjustment of the real exchange rate and improvements in export incentive schemes have increased the profitability of exporting. Unfortunately there is no set of consistent data to compare domestic and export profitability over time. However, there is partial information collected through various surveys (although not exactly comparable in terms of the product mix and coverage of incentives) that can be used to illustrate general trends.

102. This section will first discuss the behavior of domestic and export profitability from surveys that have been conducted by ICICI. It will then analyze the impact of high capital and input costs on export competitiveness based on a sample of appraisal reports prepared by IDBI and ICICI for financing (Ettori, 1990).

103. Domestic and Export Profitability. Table 13 presents the estimates of domestic and export profitability for a sample of exporting firms for selected years.

TABLE 13: DOMESTIC AND EXPORT PROFITABILITY
(gross profit on domestic and export sales)

	1978/79	1979/80	1980/81	1985/86	1986/87
		ON TOTAL COSTS			
Domestic Profitability	12.0	12.4	13.9	16.1	13.2
Export Profitability (without incentives)	-15.4	-12.7	-11.2	-27.3	-17.0
Export Profitability (with incentives)	4.0	5.4	4.9	-8.8	-0.2
		ON VARIABLE COSTS			
Domestic Profitability	--	--	--	27.9	25.1
Export Profitability (without incentives)	-5.2	-2.8	-1.6	-11.5	-2.2
Export Profitability (with incentives)	14.2	15.2	13.9	4.6	12.4

Source: ICICI.

104. The data for 1978-81 comes from a study by ICICI comparing the profitability of domestic and export sales for exporting firms. The sample is identical for these three years. The data for 1985-87 again comes from ICICI, but it is a different sample of firms and the definitions of profitability are not identical. Furthermore, this data is for firms that are already exporting. These firms are likely to have higher efficiency and export profitability than most of Indian firms which do not export at all.

105. Although the data is not exactly comparable, the numbers in Table 13 are broadly consistent with the aggregate incentive rates given in Tables 10 and 12. Export profitability (without incentives) is less negative in the late 1970s than in 1985/86 due to exchange rate appreciation over this period. The devaluations starting in 1985/86 begin to have effects in 1986/87 when the profitability of exports without incentives increases from -27.3% to -17%. Although there are no comparable data for more recent years, the profitability of exporting should have further improved both due to further real devaluations, the streamlining of export incentives, and continued deregulation which has created exportable surpluses (Aksoy and Tang, 1991). The general conclusion is that the export profitability on a full cost basis (with incentives) have moved from being highly negative in mid-1980s to marginally

negative in 1987. More important, export profitability on a variable cost basis has improved significantly, allowing more firms to export their surplus production with positive profits.

106. The issue of comparable samples is very important because of the tremendous variation in profitability caused by differential tariffs and taxes and the inability of the compensatory system to compensate fully for it. Furthermore, this variability in tax burdens makes it almost impossible to separate out production inefficiencies from the effects of taxation. Table 14 shows export and domestic profitability for different subsectors for 1986/87; the last year for the ICICI data is available.

TABLE 14: EXPORT AND DOMESTIC PROFITABILITY BY INDUSTRY GROUPS (1986/87)
(Gross Profit Rate on Domestic and Export Sales)

Industry Group	Domestic Profitability	Export Profitability without Incentives	Export Profitability with Incentives	Export Profitability with Incentives on Variable Cost
Automobiles and Ancillaries	14.8	-0.6	20.5	29.0
Chemicals and Petrochemicals	18.0	-52.7	-33.0	-19.3
Electrical Equipment	20.2	-20.3	1.9	19.9
Food Products	10.0	-9.3	0.6	6.8
Glass and Pottery	19.3	-8.2	5.7	21.5
Machinery	8.6	-22.0	-2.3	14.2
Ferrous Metal Products	16.3	-22.1	2.4	19.4
Rubber Products	4.4	-30.7	-16.1	-9.8
Textiles	19.7	10.4	17.4	28.5
Miscellaneous	37.7	36.4	39.4	39.4

Source: ICICI.

107. Export profitability with incentives show very large variation depending on the type of product. It varied between -33% for chemicals to 18% for textiles and 40% for miscellaneous manufacturing. This results from a combination of domestic inefficiencies and the inability of the export administration to compensate properly for higher input costs. The average profitability ratios should, therefore, be treated with caution because small changes in the sample can lead to large changes in average profitability.

108. These results confirm the marginal nature of exports in India and is consistent with the historical behavior of exports. Except for textiles, leather, and gems, most engineering products are profitable only on a marginal cost basis and are undertaken when domestic markets have excess supplies. When domestic markets improve, the export activity ceases.

109. The Effect of Tariff Structure on Export Competitiveness. There are two tax related cost escalating factors for Indian firms. First is the high cost of inputs due to taxes, tariffs and domestic inefficiencies. In theory, higher input costs can be compensated under the existing export compensatory schemes (i.e., CCS, duty drawback, advance licenses, etc.) The second and potentially more serious cost escalation is due to very high capital costs, which can not be compensated under the GATT system.

110. To analyze the differential impact of tariffs and taxes on domestic costs as well as export profitability, data from 60 appraisal reports prepared by ICICI and IDBI during 1988 and 1989 in 25 manufacturing subsectors were analyzed (See Ettori, 1990 for details and limitations of the data). The firms in question are not "typical" exporters from India and are concentrated mainly in chemicals, metals and engineering industries. However, they are representative of the product areas that are receiving significant investments. The data on the cost structure of these firms have been reestimated by using international prices for the inputs as well as fixed capital to observe separately the impact of input and capital costs on export profitability. The average domestic profitability of these companies was 12.9% while the export profitability (without incentives) was -33.2%. That is, given the levels of input and capital costs, the firms would make about 13% gross profit in the domestic market while they would lose 33% on their export sales. The structure of profitability for these companies is given in Table 15.

TABLE 15: DOMESTIC AND INTERNATIONAL PROFITABILITY
(Gross Profit Rate on Domestic and Export Sales)

	On Total Cost	On Variable Costs
Domestic Profitability	12.9	--
Export Profitability	-33.2	-3.1
Export Profitability		
(a) only with inputs at world prices	-0.2	29.8
(b) with inputs and capital at world prices	10.65	--

Source: Ettori (1990).

111. Table 15 presents domestic and export profitability under different price assumptions on inputs and capital goods. If these projects had received all their inputs and capital at world prices, they would have been profitable at world prices for their output. Here, the optimistic forecasts might exaggerate the gross profitability of these firms. However, the relative impact of tariffs and taxes on both input and capital side would be the same even if the production efficiencies were much lower. The relatively higher input costs in India, on average, constitute almost 33% of the international selling price of the output. That is, if firms receive their inputs at world prices, the export profitability would increase from -33% to about 0%, indicating a shift of about 33 percentage points. This is still not as profitable as selling in the domestic market which has a profit rate of 12.9%.

112. The implication of Table 15 is that even if the export compensation system worked perfectly; i.e., firms received all their tradable inputs at world prices, they would still not make a profit on their export sales. High capital costs incurred by Indian firms compared to their competitors abroad would only make them break even. However, if the tariffs and taxes on their capital costs were also lowered to zero, then the export profitability of these companies would be very close to their domestic levels of profitability. Thus under a full free trade regime (not just free trade on inputs), the firms in question would be as profitable in exporting as selling in the domestic market.

113. Second and more important result of the analysis is the variance of cost reductions among different firms in a free-trade environment. For example,

impact of free trade on costs vary from less than 10 percentage points for some electronic equipment to more than 70 percentage points for some chemicals. This variance is caused by the variability of taxes and tariffs on inputs as well as on capital goods. Changes in export profitability due to just having inputs at world prices vary between 2 to 60 percentage points for different products.

114. Given this variance of input costs, it is almost impossible for any export compensatory system to fully compensate each individual firm for higher input costs. According to these estimates, the average export incentive, just to compensate for the high input costs should be 33% of the export price. However, as pointed out above, the variance among products and product groups is very large. The implied average export subsidy and the range of individual firm subsidies within the subsectors are: 41% in chemicals (15%-68%), 43% in synthetic fibers (27%-50%), 44% in basic steel (22%-59%), 32% in electronics (2%-60%) and 23% in other engineering products (3%-53%). Furthermore, even if these higher input costs were fully compensated, the resulting export profitability would still not be positive due to higher capital costs in India. Thus, unless the capital costs are also reduced significantly, a sustained and diversified export expansion in non-traditional activities is not likely to take place.

115. The Effect of the Import Regime on Exports. The impact of the QR regime on export performance is very difficult to quantify. The analysis of the problems faced by individual exporters clearly show that the QR regime inflicts very high costs on most exporters. The reforms in export incentives have eased some of the problems of large and direct exporters in having access to raw materials and components. However, for smaller producers, indirect exporters and for firms that rely on domestic suppliers, the export regime is still not rationalized. This is especially true for many engineering products that require a multitude of very specific inputs and components whose composition also changes depending on the export order. Most of these firms work closely with local firms that supply them with components and dies, molds, etc. Since many firms produce the exported product on the specifications of the importer, they have to be able to get all the appropriate components and raw materials quickly to execute an export order. Currently the only option that exists for the direct exporter to get its inputs duty

free is to apply for an advance license for the inputs, receive the license, place the order from oversees, import the item and then produce the final product for export. In most cases, these components can be made locally mostly by small specialized firms. However, since most of these inputs require special metals and/or chemicals (plastics) which are very expensive in India, local production costs of the components end up being much higher than international prices. To get the metals and chemicals at world prices would require the exporter of the final product and the component producer to jointly apply for an advance license and receive the basic inputs again through importing. To do this for every small component is both very costly, time consuming and there is always one input or component that will be questioned or rejected by the relevant authorities. When this situation is compared with that of India's main competitors, which obtain basic inputs at world prices and can import any component without delay, the reasons for low Indian exports become obvious.

116. The situation is similar in many other sectors. Products that require fast export response, are complicated and have high backward linkages are heavily penalized by the trade regime. Unfortunately, these are the products that have high value added, expanding markets and high unit values. Thus, India's exports tend to be simpler and more low end products with very low unit values (Aksoy and Tang, 1991). Furthermore, India firms tend to hold much larger inventories due to uncertainties in the supply of imports and local supplies.13/ This raises their costs of production significantly above their competitors, which are now moving in just-in-time inventory systems.

D. CONCLUSIONS

117. Despite attempts to liberalize the import trade regime, the structure of import licensing is still very restrictive and highly complicated. It is very difficult to quantify the impact of the import licensing system on costs and export performance. For most products in limited permissible and canalized lists (items importable through REP licenses), the licensing system probably

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13/ Many engineering firms hold almost nine months of supplies, because they receive six monthly import licenses and there is always the possibility that licenses might be delayed. MMTC, which imports canalized metals, periodically delays the imports of many products.

does not give any protection additional to that given by the tariff system. Since these products are importable through REP licenses, the premia on trading of REP licenses indicate the extent to which QRs are binding. There are very few products that have a consistently high import (REP) premia. The premia on imports of individual products increase (sometimes up to 50%) for short periods of time when there are specific shortages (such as interruptions in domestic or import supplies) and then decline as these shortages are eliminated. It is not possible to estimate the import premia on items in the restricted list. Tariff collection rates on items in the restricted list are generally higher than already very high average tariff rates. At these tariff rates, it may be that very few of these products would be imported even if restrictions were eased. Also, the fact that for many products, landed import prices (inclusive of tariffs) are higher than domestic prices, also shows the redundancy of the licensing system (Aksoy and Ettori, 1991). From these observations, it would seem that for most products, the existing trade restrictions are probably redundant in terms of its protective value. Again, given the very specific nature of the import regime, many other product groups may be receiving significant protection through import restrictions.

118. In terms of administrative impediments, however, the import regime inflicts very high costs to the Indian economy. It creates delays in importing necessary raw materials leading to interruptions in production and forces the firms to hold large inventories to minimize potential import bottlenecks. These costs are especially high for raw materials and other inputs that are placed on the restricted list because of sufficient domestic supply. Any interruption in domestic supply (which happens very frequently in India due to power cuts, strikes, transport problems etc.) leaves downstream producers idle until either the domestic supply resumes or Government (usually after long negotiations) decides to allow imports. At least for raw materials in the limited permissible and canalized lists, firms can use REP licenses to import, albeit at higher cost (due to tariffs and REP premia) and with delay. The QR regime inflicts similar damage on export performance. Reforms in export incentives have eased some problems that large, direct exporters have in gaining access to imported raw materials and components. But the export regime is still not rationalized for smaller producers, indirect exporters and firms that rely on domestic suppliers.

119. The absolute levels of tariffs in India are extremely high and have been increased very rapidly, especially over the last decade. Furthermore, key intermediate products (metals and chemicals) and capital goods, which have substantial cost impact on the rest of the economy, have the highest tariff rates. The high cost of basic inputs in India leads to higher costs of production throughout the economy, even when the production processes are otherwise efficient. The high tariffs on key inputs also lead to: (a) uneconomic import substitution in these products which create pressures for more protection; and (b) require a very cumbersome and elaborate system to compensate exporters for these costs.

120. The high tariffs and excise taxes on capital goods are even more damaging to the competitiveness of Indian industry. Higher cost of investment adds 10% to 15% to the costs of production and require an additional 30% to 50% effective rate of protection just to compensate firms for these costs (Ettori, 1990). These higher capital costs severely handicap exporters, and under GATT rules, these costs can not be reimbursed.

121. The extremely high tariffs do not fulfill their primary purpose of providing reasonable protection and incentive signals, but are primarily aimed at their secondary function of public revenue generation which in India has become predominant and has introduced pervasive distortions in prices and incentives. Furthermore, close to 30% of indirect taxes (tariffs and excise) and 23% of total taxes by the central government are levied on investment goods. Attempts to increase public revenues using the existing indirect tax structure would only increase the magnitude of distortions outlined in this study. The function of public revenue generation, which is currently another critical issue in India, should be fulfilled by other more efficient instruments, such as direct taxation (income tax) and non-protective indirect taxation (CVD and excise taxes within MODVAT) including the introduction of a full value-added tax that falls on final consumption.

122. While the analysis of the excise tax structure is beyond the scope of this study, few general conclusions can be drawn from the analysis above. First, the excise tax structure also embodies many of the distortionary characteristics of the tariff system; it taxes investment rather than consumption goods. This is not necessarily due to high nominal excise tax

rates but greater coverage of producers in these sectors. The excise taxes on consumer goods are concentrated on a few product groups which are taxed at very high rates while the other product groups are left outside the excise rate.

123. Second, just like the tariff rates, the absolute level of excise taxation of the manufacturing sector is already very high. The average tax rate on gross output for the manufacturing sector is 7% which translates to a tax rate of about 25-30% on value added. This is much higher than the average value added taxes in most countries where the VATs are more in 10% to 15% range. Thus, major reforms are also needed in the excise tax system.

124. Despite significant efforts over the past few years to streamline the administration of export incentives, the system is still extremely complex and the objective of supplying inputs to exporters at world prices is far from being reached. There is a general feeling in India that export administration can be simplified and reformed by itself without reforming import and tax policies. This view disregards the fact that the export regime has to compensate for QRs, tariffs, and taxes that are extremely non-transparent and complicated. Therefore, without a major reform of the import and tax system, the reforms in export policies alone will only lead to marginal improvements.

125. The export administration undertakes two specific activities. First, it issues import licenses for inputs that are not available domestically, or that domestic price and/or quality is not competitive. Since most of these inputs are on restricted lists, special import licenses have to be issued for exporters. The second activity is to refund to exporters the tariffs and domestic taxes paid on their inputs.14/ This activity will be relatively straightforward if the tariffs and taxes are binding and clustered around few rates. In India, where the tariff and taxes are highly variable and there is "water in the tariffs," the refund of taxes becomes very complicated and have to be done almost on a case-by-case basis. All these peculiarities, even if fully accommodated, lead to delays in administration of export incentives and

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14/ Duty-free import licenses for exports (i.e., advance licenses) accomplish these two activities simultaneously. However, they do not include state and municipal taxes and other levies placed on inputs.

take away an essential element of successful exporting; the flexibility and speed of response.

126. The problems of the export administration can only be solved by making changes in the following four areas. First, the import licensing system needs to be rationalized so that import restrictions on inputs and components are eliminated. This will allow firms to import their raw materials and other inputs without delays and on a more continuous basis. Furthermore, it will eliminate the import licensing component of the export administration. Second, the tariffs and excise taxes have to be consolidated around two to three slabs and the QRs in intermediates and capital goods need to be eliminated so that individual firms can be compensated accurately for their tax burdens. The existing system, due to multiple tariffs and taxes, QRs and controls, is so complex that it leads to over and under-compensation of exporters either blocking some of the efficient firms from exporting or overcompensating others leading to uneconomic exports. Furthermore, the ease of administration of duty-drawbacks would be greatly facilitated if tariffs are binding and the rates are uniform. Then the establishment of a few tariff drawback rates would be sufficient to compensate almost all exporters. Third, the absolute level of tariffs on inputs have to be reduced to administer the duty-free import schemes efficiently. These high tariffs induce very profitable opportunities for leakage of duty-free imports into the domestic market and/or abuse of high drawback rates (incentives). These leakages, in the long-run, will force the government to tighten the administrative controls, defeating the purpose of easy and prompt access to raw materials at world prices. Finally, the costs of investment have to be reduced by lowering the tariffs and taxes on capital goods. Even if the input costs are compensated fully, high production costs due to higher costs of investment will made Indian firms uncompetitive in the world markets. As can be seen from these points, reform of the export system really requires a fundamental reform of the tax and QR system.

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APPENDIX A

Matching Import, HS and Industrial Classifications: Methodology and Results

127. To be consistent with the import and tariff data, the licensing information for each product in the Import-Export Policy was mapped into the six-digit HS codes by matching the product descriptions in the different licensing lists with those of individual HS codes. For the majority of cases, the two descriptions matched fairly closely. About 29% of the six-digit HS codes, however, could not be located in the import policy document. Other HS codes matched more than one licensing category because of further disaggregation in the import policy.

128. Rather than making assumptions about their licensing status, HS codes that could not be located in the policy document were left unclassified. In cases where more than one product (in different licensing categories) was listed in the import policy was against a six-digit HS code, the following decision rule was used. First, the licensing category that had the greatest number of items was assigned to that six-digit HS code. In cases where the number of items were equal, more restrictive licensing category was assigned to that HS code. For example, items with three different import licensing statuses were identified for HS 846630; one "restricted, non-canalized," one "limited permissible, non-canalized," and three "OGL, non-canalized." The item was classified "OGL, non-canalized" since this category had the most number of items. Overall, the licensing status of about 71% around five thousand six-digit HS codes, covering about 82% of total imports for 1987/88, were identified.

129. The basic import licensing information for different subsectors is presented in Tables A.2 and A.3, which present the distribution of import licensing status: (i) as percentages of the listed six-digit HS codes and (ii) as percentages of 1987/88 import values, respectively.

130. The sectoral classification is based on India's 115x115 input-output table. 15/ Three of the 115 subsectors have been merged with other closely related subsectors, i.e., gram with pulses, sugar with khandsari, and khadi, with cotton textiles.

131. There is no official mapping between the input-output subsectors and six-digit HS codes. This mapping had to be constructed. This was done by grouping the five thousand HS codes into their appropriate subsectors, using: (a) Annex 2B of Sintia-T, which lists standard subsectors in six-digit HS codes; (b) the Correlation Tables, Table II, a concordance for seven-digit SITC and eight-digit HS codes; and (c) an unpublished document provided by the Planning Commission mapping the input-output subsectors to the revised Indian Trade Classification (SITC).16/ The results were subsequently reviewed by the Planning Commission, and adjustments were made accordingly. However, since some of the mappings were originally defined at the seven-digit level of aggregation, the present six-digit mapping is not exact.

132. India's import licensing system is divided into nine categories. These categories and relevant appendices in the Import Policy are given below:

15/ 115 x 115 input-output sectoral classification is used so as to be consistent with the input-output model, which simulates the effects of possible reform scenarios on output, balance of payments, and public sector deficits.

16/ Sintia-T (Software for Industrial, Trade, and Incentives Analysis), User's Guide, a World Bank publication contains a list of standard sectors based on six-digit HS; Correlation Tables were issued by Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce, Calcutta.

TABLE A.1: IMPORT LICENSING LEGENDS AND DIRECTORY

Code	Description	Appendix in the Import and Export Policy
AA	Banned	2 (Part A)
BA	Restricted, non-canalized	1 (Part A) 1 (Part B) 8 10
BB	Restricted, canalized	All overlapping items in "BA" and 5A & 5B
CA	Limited permissible, non-canalized	3 (Parts A & B)
CB	Limited permissible, canalized	All overlapping items in "CA" and 5A & 5B
DA	OGL, non-canalized	1 (Part B) 6 : lists 1-6; 8 (Part I); 9-11
DB	OGL, canalized	All overlapping items in "DA" and 5A & 5B.
DC	OGL, stock and sale	6 : list 8 (Part II)
5	Canalized, not in the other lists	5 (Parts A & B)-leftover items, not covered elsewhere

Note: All items appearing in Appendix 5 (Parts A & B) are canalized.

133. "AA" (banned) means that the item may be found in Appendix 2 (Part A); "BA" (restricted, non-canalized) means that the item appears in Appendices 1 (Part A), 2 (Part B), 8, or 10, but not in Appendix 5 (Parts A & B) simultaneously; "BB" (restricted, canalized) means that the item is in one or more of the "BA" appendices and in Appendix 5 (Parts A & B) simultaneously. The same logic applies to the other pairings, "CA" and "CB" and "DA" and "DB". Canalized items that do not overlap are denoted with code "5," which stands for "canalized, not in the other lists."

134. To simplify the description of the import licensing regime, the detailed licensing categories were combined on the basis of their degree of restrictiveness as follows:

(a)	Banned and restricted	AA+BA+BB
(b)	Limited permissible	CA
(c)	OGL	DA+DC
(d)	Canalized	CB+DB+5

That is, "banned/restricted" category is a sum of "banned," "restricted, non-canalized", and "restricted, canalized"; "limited permissible" category equals "limited permissible, non-canalized"; "OGL" is a sum of "OGL, non-canalized" and "OGL, stock and sale"; and, finally, "canalized" is a sum of "limited permissible, canalized," "OGL, canalized," and "canalized, not in the other lists."

DATA SOURCES AND TABLES

135. The data used in the calculations are from the following sources:

(i) 1987/88 import data in six-digit HS codes, provided by the Directorate General of Commercial Intelligence and Statistics, Calcutta;

(ii) Import licensing information - the Import and Export Policy, April 1988-March 1991, Vol. 1, amended to 31st March 1989, (Ministry of Commerce, Government of India); and

(iii) 1987/88 gross output value by subsector - estimates by Prof. Saluja.

Table A.2: DISTRIBUTION OF HS CODES BY LICENCING CATEGORY
(As % of Listed Six-digit HS Codes)

Sector No.	Sector Name	No. of HS Codes	AA	BA	BB	CA	CB	DA	DB	DC	6	TOTAL	UNKNOWN	Imports/ Output
1	PADDY	4	0	0	0	0	0	0	0	0	100	100	0	0.0
2	WHEAT	2	0	0	0	0	0	0	0	0	100	100	0	0.1
3	JAWAR	1	0	0	0	0	0	0	0	0	100	100	0	0.0
4	BAJRA	1	0	0	0	0	0	0	0	0	100	100	0	0.0
5	MAIZE	2	0	0	0	0	0	0	0	0	100	100	0	0.0
7	GRAM AND PULSES	11	0	100	0	0	0	0	0	0	0	100	0	4.4
8	SUGARCANE	1	0	0	0	0	0	0	0	0	0	0	100	0.0
9	GROUNDNUT	2	0	0	0	0	0	0	0	0	100	100	0	0.0
10	JUTE	2	0	0	0	0	0	0	0	0	100	100	0	1.2
11	COTTON	2	0	0	0	0	0	50	0	0	50	100	0	0.0
13	COFFEE	1	0	100	0	0	0	0	0	0	0	100	0	0.0
14	RUBBER	5	0	0	0	0	0	0	0	0	20	20	80	21.3
15	COCONUT	7	0	29	0	0	0	0	0	0	29	57	43	0.0
16	TOBACCO	3	0	33	0	67	0	0	0	0	0	100	0	0.1
17	OTHER CROPS	142	0	51	0	2	0	1	1	1	8	64	36	0.5
20	OTHER LIVESTOCK PRODUCTS	60	0	28	0	2	0	7	0	18	2	57	43	2.2
21	FORESTRY AND LOGGING	33	0	6	0	3	0	12	0	15	0	36	64	4.1
22	FISHING	57	0	93	0	5	0	0	0	0	0	98	2	0.4
	AGRICULTURE	336	0	48	0	3	0	3	0	5	9	68	32	0.9
23	COAL AND LIGNITE	7	0	0	0	0	0	0	0	0	0	0	100	4.7
24	CRUDE PETROLEUM, NATURAL GAS	8	0	0	0	0	0	0	13	0	75	88	13	103.1
	ENERGY	15	0	0	0	0	0	0	7	0	40	47	53	44.1

Sector No.	Sector Name	No. of HS Codes	AA	BA	BB	CA	CB	DA	DB	DC	E	TOTAL	UNKNOWN	Imports/ Output
25	IRON ORE	4	0	75	0	0	0	0	0	0	0	75	25	1.5
26	MANGANESE ORE	1	0	0	0	0	0	0	0	0	0	0	100	1.6
27	BAUXITE	1	0	0	0	0	0	0	0	0	0	0	100	0.2
28	COPPER ORE	1	0	0	0	0	0	0	0	0	0	0	100	0.0
29	OTHER METALLIC MINERALS	19	0	0	0	0	0	21	0	0	0	21	79	10.5
	METALLIC MINERALS	26	0	12	0	0	0	15	0	0	0	27	73	4.2
30	LIME STONE	4	0	0	0	0	0	0	0	0	0	0	100	0.9
31	MICA	3	0	0	0	0	0	0	0	0	0	0	100	0.7
32	OTHER NON-METALLIC MINERALS	62	0	10	0	10	0	13	3	0	8	44	56	48.0
	NON-METALLIC MINERALS	69	0	9	0	9	0	12	3	0	7	39	61	37.9
	MINERALS	95	0	9	0	6	0	13	2	0	5	36	64	24.0
33	SUGAR AND KHANDSARI, BOORA	8	0	0	0	0	0	25	0	0	0	25	75	3.8
35	HYDROGENATED OIL (VANASPATI)	4	50	0	0	0	0	0	0	0	0	50	50	0.1
36	EDIBLE OILS OTHER THAN VANASPATI	35	0	0	0	0	3	0	0	0	71	74	26	4.0
37	TEA AND COFFEE PROCESSING	13	0	100	0	0	0	0	0	0	0	100	0	0.0
38	MISCELLANEOUS FOOD PRODUCTS	321	0	90	0	1	0	0	0	0	0	91	9	2.3
39	BEVERAGES	22	0	91	0	5	0	0	0	0	0	95	5	0.3
40	TOBACCO PRODUCTS	6	0	83	0	17	0	0	0	0	0	100	0	0.0
	FOOD, BEVERAGE, TOBACCO	409	0	80	0	1	0	0	0	0	6	89	11	2.5

Sector No.	Sector Name	No. of HS Codes	AA	BA	BB	CA	CB	DA	DB	DC	5	TOTAL	UNKNOWN	Imports/ Output
42	KHADI, COTTON TEXTILES IN HANDLOOM COTTON TEXTILES	126	0	3	0	94	0	0	0	0	1	98	2	0.2
43	WOOLEN TEXTILES	29	0	66	0	17	0	0	0	0	0	83	17	2.8
44	SILK TEXTILES	8	0	0	0	100	0	0	0	0	0	100	0	1.0
45	ART SILK, SYNTHETIC FIBER TEXTILES	160	0	79	0	7	0	5	0	1	0	92	8	0.9
46	JUTE, HEMP, MESTA TEXTILES	15	0	7	0	0	0	0	0	0	0	7	93	0.5
47	CARPET WEAVING	27	0	85	0	4	0	0	0	0	0	89	11	0.0
48	READY-MADE GARMENTS AND MADE UP TE	247	0	96	0	0	0	0	0	0	0	97	3	0.1
49	MISCELLANEOUS TEXTILE PRODUCTS	163	0	70	0	5	0	2	0	1	0	78	22	1.3
	TEXTILES	776	0	68	0	19	0	2	0	0	0	89	11	0.6
54	LEATHER FOOTWEAR	6	0	67	0	17	0	0	0	0	0	83	17	0.6
55	LEATHER AND LEATHER PRODUCTS EXCEP	50	0	40	0	0	0	0	0	0	0	40	60	1.3
	LEATHER	56	0	43	0	2	0	0	0	0	0	45	55	1.0
	LEATHER AND TEXTILES	831	0	66	0	18	0	2	0	0	0	86	14	0.6
56	RUBBER PRODUCTS	70	0	30	0	33	0	9	0	1	0	73	27	1.9
58	PETROLEUM PRODUCTS	15	0	0	0	0	7	0	7	0	33	47	53	7.8
59	COAL TAR PRODUCTS	12	0	0	0	8	0	8	25	0	17	58	42	2.5
	PETROLEUM AND COAL PRODUCTS	97	0	22	0	25	1	7	4	1	7	67	33	0.5

Sector No.	Sector Name	No. of HS Codes	AA	BA	BB	CA	CB	DA	DB	DC	E	TOTAL	UNKNOWN	Imports/ Output
60	INORGANIC HEAVY CHEMICALS	189	0	2	0	44	0	20	0	0	0	66	34	16.7
61	ORGANIC HEAVY CHEMICALS	279	0	9	0	39	1	23	0	0	3	75	25	59.0
62	FERTILIZERS	25	0	0	0	0	4	0	8	0	56	68	32	4.1
63	PESTICIDES	23	0	13	0	35	0	26	0	0	4	78	22	8.0
64	PAINTS, VARNISHES AND LACQUERS	14	0	0	0	50	0	14	0	0	0	64	36	0.5
65	DRUGS AND MEDICINES	65	0	25	0	18	2	14	0	2	2	62	38	4.0
68	SOAPS, COSMETICS, GLYCERINE	47	0	62	0	23	2	6	0	0	2	96	4	19.8
67	SYNTHETIC FIBERS, RESIN	102	0	9	0	29	0	22	0	0	0	60	40	23.5
68	OTHER CHEMICALS	129	3	2	1	23	0	26	0	9	3	66	34	6.5
	CHEMICALS	873	0	10	0	33	1	20	0	1	3	70	30	12.1
69	STRUCTURAL CLAY PRODUCTS	17	0	6	0	12	0	24	0	0	0	41	59	2.1
70	CEMENT	5	0	100	0	0	0	0	0	0	0	100	0	0.2
71	OTHER NON-METALLIC MIN. PRODUCTS	129	0	13	0	23	0	26	1	0	1	64	36	2.6
	NON-METALLIC MINERAL PRODUCTS	151	0	15	0	21	0	25	1	0	1	63	37	1.6
72	IRON, STEEL AND FERRO ALLOYS	43	0	5	21	37	21	0	0	2	7	93	7	4.5
73	IRON, STEEL CASTING AND FORGING	5	0	0	0	40	0	0	0	0	0	40	60	0.2
74	IRON AND STEEL FOUNDRIES	210	0	0	1	30	26	5	0	0	28	91	9	52.9
75	NON-FERROUS BASIC METALS (INCLUDIN	171	0	4	0	26	19	11	2	1	17	80	20	28.4
	METALS	429	0	2	3	29	22	7	1	1	21	86	14	14.0
76	HAND TOOLS, HARDWARE	99	0	0	0	38	0	9	0	0	0	47	53	4.4
77	MISCELLANEOUS METAL PRODUCTS	106	0	25	0	23	0	10	0	0	0	58	42	4.4
	METAL PRODUCTS	205	0	13	0	30	0	10	0	0	0	53	47	4.4

Sector No.	Sector Name	No. of HS Codes	AA	BA	BB	CA	CB	DA	DB	DC	5	TOTAL	UNKNOWN	Imports/ Output
78	TRACTORS AND OTHER AGRICULTURAL IM	20	0	0	0	5	0	5	0	0	0	10	90	0.2
79	INDUSTRIAL MACHINERY FOR FOOD AND	63	0	22	0	10	0	44	0	0	0	76	24	20.6
80	INDUSTRIAL MACHINERY (EXCEPT FOOD	53	0	8	0	15	0	38	0	0	0	60	40	254.6
81	MACHINE TOOLS	74	0	3	0	8	0	65	0	0	0	76	24	17.0
83	OTHER NON-ELECTRICAL MACHINERY	235	0	32	0	16	0	22	0	0	0	71	29	23.7
84	ELECTRICAL INDUSTRIAL MACHINERY	57	0	42	0	25	0	12	0	0	0	79	21	5.7
85	ELECTRICAL CABLES, WIRES	10	0	0	0	30	0	0	0	0	0	30	70	2.3
89	OTHER ELECTRICAL MACHINERY	27	0	15	0	48	0	26	0	0	0	89	11	31.2
	BASIC MACHINERY	539	0	23	0	17	0	30	0	0	0	70	30	26.6
82	OFFICE COMPUTING AND ACCOUNTING MA	34	0	26	0	6	0	21	0	6	0	59	41	133.9
88	COMMUNICATION EQUIPMENT	33	0	3	0	15	0	6	0	0	0	24	76	5.8
	COMM. & OFF. EQUIP.	67	0	15	0	10	0	13	0	3	0	42	58	12.5
	MACHINERY (BASIC & OFF.)	606	0	22	0	16	0	28	0	0	0	67	33	24.9
86	BATTERIES	12	0	0	0	42	0	25	0	0	0	67	33	3.2
87	ELECTRICAL APPLIANCES	52	0	31	0	46	0	6	0	0	0	83	17	10.8
90	ELECTRONIC EQUIPMENT INCLUDING T.V	86	0	22	0	38	3	23	0	0	2	90	10	22.6
	ELECTRICAL APPLIANCES, & ELECTRONI	150	0	23	0	41	2	17	0	0	1	85	16	16.2
91	SHIPS AND BOATS	20	0	25	0	5	0	0	0	0	5	35	65	51.6
92	RAIL EQUIPMENT	23	0	0	0	17	0	4	0	0	0	22	78	6.1
93	MOTOR VEHICLES	53	0	23	0	17	0	19	0	0	0	58	42	2.7
94	MOTOR CYCLES AND SCOOTERS	11	0	55	0	0	0	0	0	0	0	55	45	5.6
95	BICYCLES AND CYCLE-RICKSHAW	7	0	14	0	43	0	0	0	0	0	57	43	0.5
96	OTHER TRANSPORT EQUIPMENT	11	0	9	0	0	0	0	0	0	0	9	91	0.6
	TRANSPORT EQUIPMENT	125	0	20	0	14	0	9	0	0	1	43	57	4.4

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Sector No.	Sector Name	No. of HS Codes	AA	BA	BB	CA	CB	DA	DB	DC	5	TOTAL	UNKNOWN	Imports/ Output
97	WATCHES AND CLOCKS	55	0	40	0	11	0	4	0	2	0	56	44	6.7
98	MISCELLANEOUS MANUFACTURING	334	0	37	0	6	0	20	0	1	0	64	36	19.6
50	FURNITURE AND FIXTURES AND FIXTURE	9	0	100	0	0	0	0	0	0	0	100	0	0.0
51	WOOD AND WOOD PRODUCTS EXCEPT FURN	59	0	12	0	8	0	14	0	0	0	34	66	1.2
52	PAPER, PAPER PRODUCTS AND NEWSPRIN	120	0	10	0	14	0	19	1	0	1	45	55	16.6
53	PRINTING, PUBLISHING AND ALLIED AC	29	0	0	0	24	0	3	0	0	0	28	72	3.0
57	PLASTIC PRODUCTS	62	0	16	0	16	0	21	0	0	0	53	47	3.1
	OTHERS	668	0	27	0	10	0	17	0	1	0	55	45	
	TOTAL MANUFACTURING	4544	0	31	0	20	2	13	0	1	3	72	28	9.0
	TOTAL	4990	0	32	0	19	2	13	0	1	4	71	29	7.2

Table A.3: DISTRIBUTION OF IMPORTS BY IMPORT LICENCING CATEGORY
(As % of Total Imports; Imports in Rs. mil.)

Sector No.	Sector Name	TOTAL IMPORTS	AA	BA	BB	CA	CB	DA	DB	DC	5	TOTAL	UNKNOWN	Imports/ Output
1	PADDY	21.5	0	0	0	0	0	0	0	0	100	100	0	0.0
2	WHEAT	89.9	0	0	0	0	0	0	0	0	100	100	0	0.1
3	JAWAR	0.0	0	0	0	0	0	0	0	0	100	100	0	0.0
4	BAJRA	1.2	0	0	0	0	0	0	0	0	100	100	0	0.0
5	MAIZE	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0
7	GRAM AND PULSES	2825.8	0	78	0	0	0	0	0	0	0	78	22	4.4
8	SUGARCANE	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0
9	GROUNDNUT	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0
10	JUTE	39.0	0	0	0	0	0	0	0	0	100	100	0	1.2
11	COTTON	5.9	0	0	0	0	0	0	0	0	100	100	0	0.0
13	COFFEE	0.5	0	100	0	0	0	0	0	0	0	100	0	0.0
14	RUBBER	649.1	0	0	0	0	0	0	0	0	9	9	91	21.3
15	COCONUT	4.1	0	9	0	0	0	0	0	0	34	42	58	0.0
16	TOBACCO	5.0	0	0	0	100	0	0	0	0	0	100	0	0.1
17	OTHER CROPS	1491.2	0	82	0	1	0	1	0	24	5	93	7	0.5
20	OTHER LIVESTOCK PRODUCTS	1964.9	0	1	0	2	0	61	0	3	25	92	8	2.2
21	FORESTRY AND LOGGING	2392.8	0	0	0	1	0	5	0	68	0	75	25	4.1
22	FISHING	101.7	0	0	0	100	0	0	0	0	0	100	0	0.4
	AGRICULTURE	9592.0	0	33	0	2	0	14	0	21	8	78	22	0.9
23	COAL AND LIGNITE	2072.9	0	0	0	0	0	0	0	0	0	0	100	4.7
24	CRUDE PETROLEUM, NATURAL GAS	30362.4	0	0	0	0	0	0	0	0	100	100	0	103.1
	ENERGY	32435.3	0	0	0	0	0	0	0	0	94	94	6	44.1

Sector No.	Sector Name	TOTAL IMPORTS	AA	BA	BB	CA	CB	DA	DB	DC	E	TOTAL	UNKNOWN	Imports/ Output
25	IRON ORE	47.4	0	99	0	0	0	0	0	0	0	99	1	1.5
26	MANGANESE ORE	6.0	0	0	0	0	0	0	0	0	0	0	100	1.6
27	BAUXITE	0.4	0	0	0	0	0	0	0	0	0	0	100	0.2
28	COPPER ORE	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0
29	OTHER METALLIC MINERALS	255.5	0	0	0	0	0	33	0	0	0	33	67	10.5
	METALLIC MINERALS	309.2	0	16	0	0	0	27	0	0	0	43	57	4.2
30	LIME STONE	19.8	0	0	0	0	0	0	0	0	0	0	100	0.9
31	MICA	0.2	0	0	0	0	0	0	0	0	0	0	100	0.7
32	OTHER NON-METALLIC MINERALS	3924.0	0	0	0	0	0	5	1	0	82	88	12	48.0
	NON-METALLIC MINERALS	3944.0	0	0	0	0	0	5	1	0	82	88	12	37.9
	MINERALS	4253.2	0	1	0	0	0	7	1	0	76	85	15	24.0
33	SUGAR AND KHANDSARI, BOORA	1832.2	0	0	0	0	0	0	0	0	0	0	102	3.8
35	HYDROGENATED OIL (VANASPATI)	12.7	6	0	0	0	0	0	0	0	94	100	0	0.1
36	EDIBLE OILS OTHER THAN VANASPATI	4323.1	0	0	0	0	1	0	0	0	98	100	0	4.0
37	TEA AND COFFEE PROCESSING	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0
38	MISCELLANEOUS FOOD PRODUCTS	2391.8	0	77	0	1	0	0	0	0	0	78	22	2.3
39	BEVERAGES	43.2	0	99	0	1	0	0	0	0	0	100	0	0.3
40	TOBACCO PRODUCTS	10.1	0	100	0	0	0	0	0	0	0	100	0	0.0
	FOOD, BEVERAGE, TOBACCO	8612.6	0	22	0	0	1	0	0	0	50	72	28	2.5

Sector No.	Sector Name	TOTAL IMPORTS	AA	BA	BB	CA	CB	DA	DB	DC	5	TOTAL	UNKNOWN	Imports/ Output
42	KHADI,COTTON TEXTILES IN HANDLOOMS COTTON TEXTILES	260.7	0	1	0	99	0	0	0	0	0	100	0	0.2
43	WOOLEN TEXTILES	323.7	0	92	0	4	0	0	0	0	0	95	5	2.8
44	SILK TEXTILES	88.8	0	0	0	100	0	0	0	0	0	100	0	1.0
45	ART SILK,SYNTHETIC FIBER TEXTILES	928.9	0	32	0	34	0	9	0	21	0	96	4	0.9
46	JUTE, HEMP, MESTA TEXTILES	68.3	0	0	0	0	0	0	0	0	0	0	100	0.5
47	CARPET WEAVING	0.0	0	0	0	0	0	0	0	0	0	0	0	0.0
48	READY-MADE GARMENTS AND MADE UP TEXTILE	17.8	0	25	0	0	0	0	0	0	0	25	75	0.1
49	MISCELLANEOUS TEXTILE PRODUCTS	531.1	0	26	0	12	0	13	0	3	0	54	46	1.3
	TEXTILES	2219.4	0	34	0	33	0	7	0	9	0	83	17	0.6
54	LEATHER FOOTWEAR	77.5	0	0	0	0	0	76	0	0	0	76	24	0.6
55	LEATHER AND LEATHER PRODUCTS EXCEPT FOOT	185.2	0	16	0	0	0	0	0	0	0	16	85	1.3
	LEATHER	262.7	0	10	0	0	0	22	0	0	0	33	67	1.0
	LEATHER AND TEXTILES	2482.1	0	31	0	30	0	8	0	8	0	78	22	0.8
56	RUBBER PRODUCTS	508.0	0	0	0	67	0	18	0	5	0	91	9	1.9
58	PETROLEUM PRODUCTS	10097.5	0	0	0	0	0	0	100	0	0	100	0	7.8
59	COAL TAR PRODUCTS	296.6	0	0	0	27	0	27	45	0	0	98	2	2.5
	PETROLEUM AND COAL PRODUCTS	10902.1	0	0	0	4	0	2	94	0	0	99	1	6.5

Sector No.	Sector Name	TOTAL IMPORTS	AA	BA	BB	CA	CB	DA	DB	DC	S	TOTAL	UNKNOWN	Imports/ Output
60	INORGANIC HEAVY CHEMICALS	4088.0	0	1	0	10	0	69	0	0	0	81	19	16.7
61	ORGANIC HEAVY CHEMICALS	7252.1	0	4	0	52	1	21	0	0	7	85	15	59.0
62	FERTILIZERS	1879.5	0	0	0	0	0	0	28	0	56	85	15	4.1
63	PESTICIDES	433.8	0	6	0	18	0	74	0	0	0	98	2	8.0
64	PAINTS, VARNISHES AND LACQUERS	113.0	0	0	0	47	0	22	0	0	0	69	31	0.5
65	DRUGS AND MEDICINES	1678.0	0	18	0	52	0	21	0	0	1	91	9	4.0
66	SOAPS, COSMETICS, GLYCERINE	5944.7	0	2	0	4	76	2	0	0	16	99	1	19.8
67	SYNTHETIC FIBERS, RESIN	6303.9	0	3	0	8	0	73	0	0	0	83	17	23.5
68	OTHER CHEMICALS	2731.8	1	0	15	39	0	24	0	4	5	87	13	6.5
	CHEMICALS	30424.8	0	3	1	23	15	34	2	0	9	87	13	12.1
69	STRUCTURAL CLAY PRODUCTS	267.8	0	2	0	16	0	43	0	0	0	61	39	2.1
70	CEMENT	49.9	0	100	0	0	0	0	0	0	0	100	0	0.2
71	OTHER NON-METALLIC MINERAL PRODUCTS a/	922.3	0	0	0	26	0	35	0	0	0	61	39	2.6
	NON-METALLIC MINERAL PRODUCTS a/	1239.9	0	5	0	22	0	35	0	0	0	63	37	1.8
72	IRON, STEEL AND FERRO ALLOYS	5035.7	0	5	69	7	7	0	0	2	0	91	9	4.5
73	IRON, STEEL CASTING AND FORGING	39.0	0	0	0	58	0	0	0	0	0	58	42	0.2
74	IRON AND STEEL FOUNDRIES	12214.6	0	0	0	41	17	12	1	0	27	98	2	52.9
75	NON-FERROUS BASIC METALS (INCLUDING ALLO	7836.1	0	0	0	6	39	3	3	6	12	69	31	28.4
	METALS	25125.4	0	1	14	23	22	7	2	2	17	88	12	14.0
76	HAND TOOLS, HARDWARE	561.7	0	0	0	56	0	9	0	0	0	65	35	4.4
77	MISCELLANEOUS METAL PRODUCTS	2054.9	0	0	0	73	0	3	0	0	0	77	23	4.4
	METAL PRODUCTS	2616.5	0	0	0	70	0	4	0	0	0	74	26	4.4

Sector No.	Sector Name	TOTAL IMPORTS	AA	BA	BB	CA	CB	DA	DB	DC	E	TOTAL	UNKNOWN	Imports/ Output
78	TRACTORS AND OTHER AGRICULTURAL IMPLEMEN	26.5	0	0	0	54	0	0	0	0	0	54	46	0.2
79	INDUSTRIAL MACHINERY FOR FOOD AND TEXTIL	2166.2	0	24	0	28	0	41	0	0	0	94	6	20.6
80	INDUSTRIAL MACHINERY (EXCEPT FOOD AND TE	21891.1	0	79	0	4	0	12	0	0	0	94	6	264.6
81	MACHINE TOOLS	2143.6	0	21	0	11	0	56	0	0	0	87	13	17.0
83	OTHER NON-ELECTRICAL MACHINERY	13336.4	0	11	0	29	0	37	0	0	0	76	24	23.7
84	ELECTRICAL INDUSTRIAL MACHINERY	2243.0	0	17	0	46	0	3	0	0	0	67	33	6.7
85	ELECTRICAL CABLES, WIRES	473.8	0	0	0	79	0	0	0	0	0	79	21	2.8
89	OTHER ELECTRICAL MACHINERY	2123.3	0	41	0	20	0	35	0	0	0	96	4	31.2
	BASIC MACHINERY	44403.8	0	47	0	17	0	23	0	0	0	87	13	26.6
82	OFFICE COMPUTING AND ACCOUNTING MACHINER	1758.7	0	18	0	76	0	2	0	0	0	95	5	133.9
88	COMMUNICATION EQUIPMENT	1376.8	0	1	0	22	0	50	0	0	0	74	26	6.8
	COMM. & OFF. EQUIP.	3135.5	0	10	0	52	0	23	0	0	0	86	14	12.5
	MACHINERY (BASIC & OFF.)	47539.3	0	45	0	19	0	23	0	0	0	87	13	24.8
86	BATTERIES	260.5	0	0	0	74	0	6	0	0	0	80	20	3.2
87	ELECTRICAL APPLIANCES	1406.1	0	1	0	33	0	66	0	0	0	99	1	10.8
90	ELECTRONIC EQUIPMENT INCLU. T.V.	6260.3	0	2	0	56	1	37	0	0	1	97	3	22.6
	ELECTRICAL APPLIANCES, & ELECTRONICS	7926.9	0	2	0	52	1	41	0	0	1	97	3	16.2
91	SHIPS AND BOATS	1418.0	0	0	0	1	0	0	0	0	41	41	59	51.6
92	RAIL EQUIPMENT	789.7	0	0	0	77	0	3	0	0	0	80	20	6.1
93	MOTOR VEHICLES	1925.0	0	3	0	53	0	35	0	0	0	92	8	2.7
94	MOTOR CYCLES AND SCOOTERS	638.0	0	0	0	0	0	0	0	0	0	0	100	5.6
95	BICYCLES AND CYCLE-RICKSHAW	44.8	0	0	0	99	0	0	0	0	0	99	1	0.5
96	OTHER TRANSPORT EQUIPMENT	12.2	0	0	0	0	0	0	0	0	0	0	100	0.6
	TRANSPORT EQUIPMENT	4827.7	0	1	0	36	0	15	0	0	12	63	37	4.4

Sector No.	Sector Name	TOTAL IMPORTS	AA	BA	BB	CA	CB	DA	DB	DC	6	TOTAL	UNKNOWN	Imports/ Output
97	WATCHES AND CLOCKS	398.7	0	0	0	35	0	62	0	0	0	97	3	6.7
98	MISCELLANEOUS MANUFACTURING	7537.9	0	10	0	6	0	32	0	0	0	48	52	19.6
50	FURNITURE AND FIXTURES AND FIXTURES-WOOD	0.8	0	100	0	0	0	0	0	0	0	100	0	0.0
51	WOOD AND WOOD PRODUCTS EXCEPT FURNITURE	201.7	0	0	0	5	0	61	0	0	0	66	34	1.2
52	PAPER, PAPER PRODUCTS AND NEWSPRINT	5076.8	0	2	0	10	0	10	0	0	36	58	42	16.6
53	PRINTING, PUBLISHING AND ALLIED ACTIVITI	855.8	0	0	0	1	0	1	0	0	0	2	98	3.0
57	PLASTIC PRODUCTS	590.9	0	11	0	16	0	58	0	0	0	85	15	3.1
	OTHERS	14662.6	0	6	0	8	0	25	0	0	13	52	48	10.2
	TOTAL MANUFACTURING a/	156359.7	0	17	2	21	7	20	7	1	9	83	17	7.9
	TOTAL a/	202640.2	0	15	2	16	5	16	6	1	24	85	15	6.5

a/ Excluding gems.

APPENDIX B

Disaggregated Data Base for Tariffs

136. This appendix presents the sources of disaggregated data that is used to construct the summary tables in the paper.

137. The calculations of Table B.1 were based on data from various issues of Revenue Budget and of Report on Currency and Finance (RBI). In other tables, import data are provisional numbers from DGCIS; while customs and excise collections are from Department of Revenue. The matching between imports and collections are not perfect. Some six-digit HS codes show tariff collections but relatively little or no imports, indicating misclassification on the part of one or the other agency. Therefore, adjustments had to be made. In some subsectors, where total imports were zero or insignificant and small amounts of collection numbers exist, the collection rates were assumed to be zero. In such cases a small collection number produces misleadingly high collection rates. Such adjustments were made in the input-output subsectors: 3, 5, 8, 9, 27, 28, 31, 37, 47, 78, 95, and 96. However, more serious problems occurred in items related to imports under the Baggage Rule (HS codes 9802-9805) and the tariff chapter Miscellaneous Goods (Chapter 99). In these two categories, large amounts of collections were reported but no imports were given. For example, HS 990200 and HS 990300, which falls in subsector 65--Drugs and Medicines--show collections of Rs 669 million and Rs 3007 million respectively but no imports; HS 980200 in subsector 68--Other Chemicals--shows a collection of Rs 4161 million but no imports; and likewise item HS 980300 in subsector 98--Miscellaneous Manufacturing--shows a collection of Rs 3518 million but no imports. In calculating tariff collection rates for those three subsectors, all the Baggage Rule and Miscellaneous Goods items are excluded. However, they are included in the estimation of the overall tariff collection rates. The same was done with respect to the imports and collection data in the subsectors whose collection rates had been set to zero.

The data used in the tariff analysis are from the following sources:

(a) Customs tariff rates - (a) Big's Easy-Reference Customs Tariffs 1989-90, Big Database Publishing Pvt Ltd, 36C Connaught Place, New Delhi 110001, India, March 1989; and (b) Customs Tariff, Directorate of Publications, Customs & Central Excise, New Delhi, June 1, 1989;

(b) Excise duty rates - Same as 1(a) plus the companion document to 1(b), entitled Excise Duty;

(c) 1987/88 imports and exports data - Directorate General of Commercial Intelligence and Statistics, Calcutta;

(d) 1987/88 customs tariff collection data - Department of Revenue, Ministry of Finance, New Delhi;

(e) 1987/88 excise collection and excisable output data - Statistical Year Book Central Excise in three volumes, issued by Central Exchange for Assessment Data, Directorate of Statistics and Intelligence, Central Excise & Customs, New Delhi; and

(f) 1987/88 gross output value by sector - estimates by Prof. Saluja.

Table B.1: IMPORT DUTY COLLECTION RATES (%)

Year	Primary			Manufactures					Total Imports
				Capital Goods			Other Manf.	Total Manf.	
	Fuels	Food	Total Primary	Machinery	Transport Equipment	Total Capital Goods			
1980/81	32.10	2.05	9.30	7.31	3.84	6.55	21.22	15.35	13.78
1981/82	39.68	8.37	17.28	9.85	4.63	8.93	25.92	18.48	18.18
1982/83	60.54	2.79	21.42	13.03	8.29	12.15	28.33	21.01	21.07
1983/84	69.84	2.02	23.85	18.38	13.95	17.66	39.08	28.65	27.33
1984/85	118.80	1.18	21.51	22.16	13.67	20.85	46.46	33.59	29.99
1985/86	121.48	1.34	20.41	35.81	25.34	34.31	60.20	47.13	38.88
1986/87	112.66	0.57	8.86	27.08	6.29	24.80	42.55	34.27	23.94
1987/88	42.81	0.80	5.48	23.66	3.79	20.46	32.69	28.05	20.33
1988/89	25.76	0.83	6.89	24.04	4.72	21.54	27.50	25.21	19.59
1989/70	24.06	0.91	7.59	26.46	25.86	26.38	27.36	27.00	20.67
1970/71	21.53	0.86	7.37	27.36	22.70	26.57	36.56	33.21	25.90
1971/72	31.93	1.24	15.44	32.08	29.13	31.49	47.05	41.74	35.09
1972/73	39.25	1.27	21.70	34.07	36.52	34.53	57.70	49.17	42.49
1973/74	17.15	0.54	8.52	36.50	42.92	37.44	55.28	48.51	31.54
1974/75	8.28	0.38	4.89	38.38	38.44	38.39	49.81	46.56	27.34
1975/76	9.42	1.57	5.18	45.72	43.99	45.43	50.58	48.66	25.83
1976/77	7.95	2.05	5.42	43.79	52.39	45.19	61.69	54.56	28.70
1977/78	8.21	3.35	6.38	44.44	22.78	40.05	49.86	46.46	27.32
1978/79	11.35	4.59	9.21	49.61	18.84	42.35	54.88	50.82	32.33
1979/80	6.50	9.13	6.98	63.35	28.27	54.71	54.79	54.77	31.19
1980/81	6.74	7.42	6.85	58.60	21.96	49.08	51.93	51.04	27.06
1981/82	5.54	7.07	5.85	65.36	41.74	61.72	56.90	58.33	31.54
1982/83	4.55	8.38	5.14	77.44	26.52	64.80	71.58	69.08	35.81
1983/84	4.52	5.80	4.86	63.39	39.12	59.98	68.43	65.13	35.48
1984/85	8.72	7.37	8.40	77.58	57.67	75.16	69.94	71.68	41.27
1985/86	20.38	8.79	17.59	60.71	52.74	59.60	75.44	70.04	48.36
1986/87	40.42	30.29	37.10	61.53	47.93	59.79	75.13	68.51	56.96
1987/88	54.39	42.09	50.81	65.35	66.44	65.44	80.79	74.41	61.72

Sources: Revenue Budget, Ministry of Finance; Report on Currency and Finance, RBI, various issues.

Table B.2: 1987/88 CUSTOMS TARIFF STRUCTURE BY SUBSECTOR

PAGE 1

Sector No.	Sector Name	NOMINAL				TRADE-WEIGHTED TARIFF		COLLECTION RATE		SHARE OF IMPORTS	SHARE OF OUTPUT
		PROTECTIVE TARIFF		TOTAL TARIFF							
		Mean	Std.Dev.	Mean	Std.Dev.	Protective	Total	Protective	Total		
1	PADDY	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	0.0	6.6
2	WHEAT	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	3.5
3	JAWAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
4	BAJRA	0.0	0.0	0.0	0.0	0.0	0.0	30.6	30.6	0.0	0.2
5	MAIZE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
7	GRAM AND PULSES	32.7	7.2	32.7	7.2	29.4	29.4	13.4	13.4	1.3	2.1
8	SUGARCANE	145.0	0.0	145.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
9	GROUNDNUT	105.0	0.0	105.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
10	JUTE	85.0	0.0	85.0	0.0	85.0	85.0	0.0	0.0	0.0	0.1
11	COTTON	75.0	30.0	87.3	42.3	45.2	45.3	8.8	8.8	0.0	0.9
13	COFFEE	100.0	0.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	0.2
14	RUBBER	105.0	0.0	135.8	0.0	105.0	135.8	38.2	41.1	0.3	0.1
15	COCONUT	87.9	7.0	106.9	0.8	81.9	97.6	35.6	44.4	0.0	0.6
16	TOBACCO	245.0	0.0	245.0	0.0	245.0	245.0	11.2	11.2	0.0	0.2
17	OTHER CROPS	111.7	36.7	113.0	36.5	53.5	53.8	48.9	49.0	0.7	9.3
20	OTHER LIVESTOCK PRODUCTS	46.3	47.9	46.3	47.9	39.8	39.8	21.1	21.3	0.9	2.9
21	FORESTRY AND LOGGING	67.0	42.6	76.7	52.8	18.6	19.0	12.7	12.8	1.1	1.9
22	FISHING	99.4	23.6	99.4	23.6	0.3	0.3	0.9	0.9	0.0	0.9
	AGRICULTURE	87.8	49.5	90.3	50.7	37.4	39.7	21.7	22.0	4.3	33.5

Sector No.	Sector Name	PROTECTIVE TARIFF Mean	PROTECTIVE TARIFF Std.Dev.	TOTAL TARIFF Mean	TOTAL TARIFF Std.Dev.	TRADE-WEIGHTED TARIFF Protective	TRADE-WEIGHTED TARIFF Total	COLLECTION RATE Protective	COLLECTION RATE Total	SHARE OF IMPORTS	SHARE OF OUTPUT
23	COAL AND LIGNITE	85.0	0.0	96.9	13.7	85.0	85.0	4.3	5.1	0.9	1.4
24	CRUDE PETROLEUM, NATURAL GAS	99.3	15.2	131.0	28.1	59.0	59.0	59.4	60.3	13.6	0.9
	ENERGY	92.6	13.2	115.1	28.3	60.7	60.7	55.8	56.8	14.6	2.4
25	IRON ORE	92.5	13.0	92.5	13.0	85.2	85.2	19.8	20.9	0.0	0.1
26	MANGANESE ORE	85.0	0.0	85.0	0.0	85.0	85.0	94.6	101.4	0.0	0.0
27	BAUXITE	85.0	0.0	85.0	0.0	85.0	85.0	0.0	0.0	0.0	0.0
28	COPPER ORE	85.0	0.0	85.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	OTHER METALLIC MINERALS	78.2	17.1	80.3	13.0	64.8	72.0	55.9	57.0	0.1	0.1
	METALLIC MINERALS	81.2	16.4	82.7	13.0	68.3	74.3	52.4	53.5	0.1	0.2
30	LIMESTONE	115.0	0.0	115.0	0.0	115.0	115.0	191.5	192.3	0.0	0.1
31	MICA	115.0	0.0	115.0	0.0	115.0	115.0	0.0	0.0	0.0	0.0
32	OTHER NON-METALLIC MINERALS	105.6	28.0	111.3	30.2	20.3	23.4	17.1	19.7	1.8	0.3
	NON-METALLIC MINERALS	106.6	26.7	111.7	28.6	20.8	23.9	18.1	20.7	1.8	0.3
	MINERALS	99.5	24.3	103.7	25.3	24.2	27.5	20.6	23.1	1.9	0.6
33	SUGAR	103.8	18.8	114.3	28.4	101.5	122.5	47.3	47.3	0.8	1.5
35	HYDROGENATED OIL (VANASPATI)	245.0	0.0	250.2	9.0	245.0	264.4	18.6	18.7	0.0	0.7
36	EDIBLE OILS OTHER THAN VANASPATI	98.1	19.1	107.6	22.9	46.6	50.6	37.3	37.4	1.9	3.5
37	TEA AND COFFEE PROCESSING	145.0	0.0	155.0	18.7	0.0	0.0	0.0	0.0	0.0	0.8
38	MISCELLANEOUS FOOD PRODUCTS	131.9	23.1	142.9	33.0	120.9	129.9	111.1	114.4	1.1	3.3
39	BEVERAGES	224.3	120.3	241.2	110.8	314.1	321.8	111.1	120.7	0.0	0.5
40	TOBACCO PRODUCTS	145.0	0.0	214.1	20.2	145.0	231.9	2.4	2.9	0.0	0.8
	FOOD, BEVERAGE, TOBACCO	135.1	43.9	147.1	49.1	80.7	89.8	60.3	61.2	3.9	11.0

Sector No.	Sector Name	PROTECTIVE TARIFF Mean	PROTECTIVE TARIFF Std.Dev.	TOTAL TARIFF Mean	TOTAL TARIFF Std.Dev.	TRADE-WEIGHTED TARIFF Protective	TRADE-WEIGHTED TARIFF Total	COLLECTION RATE Protective	COLLECTION RATE Total	SHARE OF IMPORTS	SHARE OF OUTPUT
42	COTTON TEXTILES, KHADI	128.8	20.6	149.1	31.4	144.6	178.6	2.5	3.1	0.1	5.2
43	WOOLEN TEXTILES	105.7	40.8	123.4	50.3	84.6	97.6	6.8	7.2	0.1	0.4
44	SILK TEXTILES	118.7	24.4	118.7	24.4	103.9	103.9	15.4	18.3	0.0	0.3
45	ART SILK, SYNTHETIC FIBER TEXTILES	145.3	17.4	188.4	41.0	155.4	257.2	83.4	152.6	0.4	3.3
46	JUTE, HEMP, MESTA TEXTILES	126.3	20.0	152.5	25.0	142.0	161.4	3.4	3.9	0.0	0.4
47	CARPET WEAVING	139.1	14.2	205.3	31.6	0.0	0.0	0.0	0.0	0.0	0.2
48	READY-MADE GARMENTS & TEXTILE GOODS	144.5	7.6	146.1	9.4	55.5	70.7	26.5	32.8	0.0	1.1
49	MISCELLANEOUS TEXTILE PRODUCTS	140.6	17.6	170.2	22.1	97.4	121.2	45.5	55.8	0.2	1.3
	TEXTILES	139.0	19.5	161.5	34.6	126.6	181.6	48.0	79.8	1.0	12.1
54	LEATHER FOOTWEAR	145.0	0.0	181.8	0.0	145.0	181.8	28.9	30.3	0.0	0.4
55	LEATHER & LEATHER PRODUCTS EXCEPT FOOTWEAR	90.7	67.8	107.4	81.4	27.3	32.3	3.8	4.7	0.1	0.5
	LEATHER	96.5	66.2	115.4	80.3	62.0	76.4	11.2	12.2	0.1	0.9
	LEATHER AND TEXTILES	136.2	25.5	158.4	39.4	119.8	170.4	44.1	72.6	1.1	13.0
58	RUBBER PRODUCTS	140.6	16.4	193.0	37.5	135.3	182.8	87.3	133.9	0.2	0.8
58	PETROLEUM PRODUCTS	105.7	30.4	143.9	38.3	6.3	24.3	7.9	27.1	4.5	4.2
59	COAL TAR PRODUCTS	74.2	24.2	101.8	51.8	36.3	42.4	43.1	49.5	0.1	0.4
	PETROLEUM AND COAL PRODUCTS	127.0	31.0	174.1	51.0	13.1	32.2	12.6	32.6	4.9	5.4

Sector No.	Sector Name	PROTECTIVE TARIFF Mean	PROTECTIVE TARIFF Std.Dev.	TOTAL TARIFF Mean	TOTAL TARIFF Std.Dev.	TRADE-WEIGHTED TARIFF Protective	TRADE-WEIGHTED TARIFF Total	COLLECTION RATE Protective	COLLECTION RATE Total	SHARE OF IMPORTS	SHARE OF OUTPUT
60	INORGANIC HEAVY CHEMICALS	111.8	18.2	141.6	22.7	38.2	47.6	32.6	35.8	1.8	0.8
61	ORGANIC HEAVY CHEMICALS	123.5	28.6	157.7	38.6	121.6	151.2	105.7	123.2	3.3	0.4
62	FERTILIZERS	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.1	0.8	1.5
63	PESTICIDES	115.0	0.0	147.3	0.0	115.0	147.3	34.3	28.3	0.2	0.2
64	PAINTS, VARNISHES AND LACQUERS	189.3	20.6	243.2	32.0	192.5	250.2	91.7	121.9	0.1	0.7
65	DRUGS AND MEDICINES a/	119.8	17.2	143.5	30.0	107.9	122.1	35.6	37.3	0.8	1.4
66	SOAPS, COSMETICS, GLYCERINE	150.7	14.0	264.8	107.9	108.6	136.7	62.8	65.5	2.7	1.0
67	SYNTHETIC FIBERS, RESIN	129.5	40.1	178.2	56.3	94.3	149.5	71.2	116.4	2.8	0.9
68	OTHER CHEMICALS a/	110.1	31.3	146.8	53.1	119.7	154.0	122.2	150.7	1.2	1.4
	CHEMICALS a/	118.2	35.8	156.3	60.6	93.9	123.7	70.5	87.8	13.7	8.1
69	STRUCTURAL CLAY PRODUCTS	115.3	38.6	141.5	43.3	83.7	106.9	68.4	88.0	0.1	0.4
70	CEMENT	105.0	0.0	168.1	24.8	105.0	185.9	25.0	25.9	0.0	0.9
71	OTHER NON-METALLIC MINERALS PRODUCTS	135.7	16.3	188.0	39.6	129.1	185.2	65.5	80.1	0.4	0.3
	GEMS b/	42.7	5.8	42.7	5.8	45.0	45.0	0.1	0.1	9.0	0.8
	NON-METALLIC MINERALS PRODUCTS c/	126.3	30.7	171.0	53.4	49.2	52.1	64.5	79.7	9.6	2.4
72	IRON, STEEL AND FERRO ALLOYS	92.2	64.9	98.0	64.0	38.4	49.7	34.1	36.1	2.3	3.6
73	IRON, STEEL CASTING AND FORGING	127.0	14.7	161.1	16.9	132.5	167.4	63.5	76.5	0.0	0.5
74	IRON AND STEEL FOUNDRIES	128.2	37.9	139.2	36.9	114.2	124.3	79.4	88.1	5.5	0.7
75	NON-FERROUS BASIC METALS (INCLUDING ALLOYS	109.7	30.4	133.2	35.9	79.0	95.7	81.6	97.1	3.5	0.9
	METALS	117.2	40.5	132.9	41.8	88.1	100.5	71.0	80.5	11.3	5.8
76	HAND TOOLS, HARDWARE	119.4	32.5	153.6	42.0	79.6	111.9	63.6	83.0	0.3	0.4
77	MISCELLANEOUS METAL PRODUCTS	141.8	54.0	191.3	62.3	102.7	134.5	40.4	49.8	0.9	1.5
	METAL PRODUCTS	131.0	46.3	108.0	55.3	97.7	129.6	45.4	57.0	1.2	1.9

Sector No.	Sector Name	PROTECTIVE TARIFF Mean	PROTECTIVE TARIFF Std.Dev.	TOTAL TARIFF Mean	TOTAL TARIFF Std.Dev.	TRADE-WEIGHTED TARIFF Protective	TRADE-WEIGHTED TARIFF Total	COLLECTION RATE Protective	COLLECTION RATE Total	SHARE OF IMPORTS	SHARE OF OUTPUT
78	TRACTORS & OTHER AGRI. IMPLEMENTS	81.8	10.3	100.9	17.6	93.1	118.0	0.0	0.0	0.0	0.4
79	INDUSTRIAL MACHINERY FOR FOOD AND TEXTILES	83.4	15.4	90.1	27.1	82.4	87.0	33.1	33.7	1.0	0.3
80	INDUSTRIAL MACHINERY (NON- FOOD & TEXTILE)	81.7	15.0	90.4	27.3	88.8	93.3	24.5	25.5	1.9	0.3
81	MACHINE TOOLS	87.2	9.2	89.7	8.8	74.8	85.8	46.9	49.4	1.0	0.4
83	OTHER NON-ELECTRICAL MACHINERY	93.3	40.1	110.6	58.3	100.0	120.7	40.1	47.5	6.0	1.8
84	ELECTRICAL INDUSTRIAL MACHINERY	91.9	21.7	109.7	38.8	92.9	117.8	60.5	69.6	1.0	1.3
85	ELECTRICAL CABLES, WIRES	75.0	0.0	127.5	0.0	75.0	127.5	28.3	38.7	0.2	0.7
89	OTHER ELECTRICAL MACHINERY	88.1	22.6	119.1	25.9	94.8	124.4	50.6	63.3	1.0	0.2
	BASIC MACHINERY	89.0	29.4	103.6	44.4	93.3	110.9	40.4	46.5	12.1	5.4
82	OFFICE COMPUTING AND ACCOUNTING MACHINERY	113.8	14.9	153.2	16.4	111.9	151.3	29.9	36.8	0.8	0.0
88	COMMUNICATION EQUIPMENT	122.7	28.5	164.1	55.7	108.0	126.5	41.8	52.6	0.6	0.8
	COMMUNICATIONS & OFFICE EQUIPMENT	118.2	21.9	158.6	41.2	110.2	140.4	35.1	43.7	1.4	0.8
	PROJECT IMPORTS d/	80.0	0.0	80.0	0.0	80.0	80.0	102.4	104.1	7.9	0.0
	ALL MACHINERY (BAS.+COMM.& OFF.+ PROJ.)	92.2	28.6	109.6	43.9	89.5	101.4	62.9	67.8	21.3	6.2
86	BATTERIES	145.0	0.0	206.7	14.0	145.0	184.4	19.7	27.8	0.1	0.3
87	ELECTRICAL APPLIANCES	111.3	23.9	155.5	55.9	97.6	144.5	25.2	30.5	0.6	0.4
90	ELECTRONIC EQUIPMENT INCLUDING T.V.	95.8	27.3	129.4	35.2	95.0	126.9	69.6	71.8	2.8	0.9
	ELECTRICAL APPLIANCES & ELECTRONICS	105.1	28.6	144.6	47.9	97.1	131.1	52.1	63.0	3.6	1.6

Sector No.	Sector Name	PROTECTIVE TARIFF Mean	PROTECTIVE TARIFF Std.Dev.	TOTAL TARIFF Mean	TOTAL TARIFF Std.Dev.	TRADE-WEIGHTED TARIFF Protective	TRADE-WEIGHTED TARIFF Total	COLLECTION RATE Protective	COLLECTION RATE Total	SHARE OF IMPORTS	SHARE OF OUTPUT
91	SHIPS AND BOATS	85.5	4.7	110.6	11.4	85 0	112.6	26.8	34.5	0.6	0.1
92	RAIL EQUIPMENT	82.4	6.7	109.8	6.5	83.7	111.3	33.9	38.0	0.4	0.4
93	MOTOR VEHICLES	103.0	45.0	140.3	78.3	72.3	79.1	68.1	78.9	0.9	2.3
94	MOTOR CYCLES AND SCOOTERS	106.8	50.5	140.2	76.3	40.1	40.1	36.0	37.2	0.3	0.4
95	BICYCLES AND CYCLE-RICKSHAW	55.0	36.7	55.0	36.7	40.0	40.0	0.0	0.0	0.0	0.3
96	OTHER TRANSPORT EQUIPMENT	117.3	46.3	146.3	60.1	144.8	181.5	0.0	0.0	0.0	0.1
	TRANSPORT EQUIPMENT	95.7	39.7	6.7	63.6	73.5	88.9	51.9	59.7	2.2	3.5
97	WATCHES AND CLOCKS	113.8	40.3	140.6	55.8	121.3	148.4	93.3	102.0	0.2	0.2
98	MISCELLANEOUS MANUFACTURING a/	109.8	43.8	140.1	56.1	43.5	57.7	24.7	30.6	3.4	1.2
50	FURNITURE AND FIXTURES AND FIXTURES-WOODEN	145.0	0.0	206.3	0.0	145.0	206.3	155.5	211.8	0.0	0.2
51	WOOD AND WOOD PRODUCTS EXCEPT FURNITURE	105.2	23.3	118.4	33.2	69.6	73.1	34.0	36.6	0.1	0.5
52	PAPER, PAPER PRODUCTS AND NEWSPRINT	125.0	33.2	164.8	48.7	57.6	70.9	17.6	21.3	2.3	1.0
53	PRINTING, PUBLISHING AND ALLIED ACTIVITIES	88.6	69.7	100.1	80.3	11.0	11.5	6.6	7.1	0.4	0.9
57	PLASTIC PRODUCTS	144.1	13.4	199.1	36.4	148.1	213.8	93.6	133.8	0.3	0.6
	OTHERS a/	115.2	41.5	147.4	57.5	53.2	68.6	26.0	32.4	6.6	4.7
	Manufacturing: adjusted a/	118.5	35.6	145.8	50.8	77.5	94.0	50.6	59.4	79.2	63.6
	unadjusted							57.1	65.9	(176447)	(1974300
	TOTAL: adjusted a/	116.0	36.5	141.2	50.4	72.3	85.5	49.6	56.7	100.0	100.0
	unadjusted							54.7	61.9	(222728)	(3104473

Note: Figures in parenthesis are in Rs. million.
a/ Excluding Chapters 98 and 99, in which imports and customs collections did not match. amounts of custo
b/ Assuming all the output was exported.
c/ Excluding gems imports.
d/ Nominal tariff rates at 90% in 1987/88.
f/ Insignificant imports.

Table B.3: INDIA'S EXCISE TAX STRUCTURE, 1988/89 (%)

PAGE 1

Sector No.	Sector Name	STATUTORY EXCISE RATE	COLLECTION/ GROSS OUTPUT	COLLECTION/ EXCISABLE OUTPUT	EXCISABLE OUTPUT/ GROSS OUTPUT
1	PADDY	0.0	0.0	0.0	0.0
2	WHEAT	0.0	0.0	0.0	0.0
3	JAWAR	0.0	0.0	0.0	0.0
4	BAJRA	0.0	0.0	0.0	0.0
5	MAIZE	0.0	0.0	0.0	0.0
7	GRAM AND PULSES	0.0	0.0	0.0	0.0
8	SUGARCANE	0.0	0.0	0.0	0.0
9	GROUNDNUT	0.0	0.0	0.0	0.0
10	JUTE	7.0	0.0	0.3	0.0
11	COTTON	0.0	0.0	0.0	0.4
13	COFFEE	0.0	0.0	0.0	0.0
14	RUBBER	15.0	0.7	152.1	0.4
15	COCONUT	10.3	0.0	15.2	0.1
16	TOBACCO	0.0	0.0	0.0	0.1
17	OTHER CROPS	0.9	0.0	13.3	0.1
20	OTHER LIVESTOCK PRODUCTS	0.0	0.0	12.0	0.0
21	FORESTRY AND LOGGING	5.6	0.1	9.3	1.0
22	FISHING	0.0	0.0	0.0	0.0
	AGRICULTURE	1.4	0.0	11.2	0.1
23	COAL AND LIGNITE	5.1	0.0	0.0	0.0
24	CRUDE PETROLEUM, NATURAL GAS	17.4	1.9	26.1	7.5
	ENERGY	11.7	0.8	26.1	3.0
25	IRON ORE	0.0	0.0	0.0	2.3
26	MANGANESE ORE	0.0	0.1	1.3	7.5
27	BAUXITE	0.0	0.0	0.0	0.0
28	COPPER ORE	0.0	0.0	0.0	0.0
29	OTHER METALLIC MINERALS	0.0	0.0	0.0	0.0
	METALLIC MINERALS	0.0	0.0	0.5	1.4
30	LIMESTONE	3.0	0.0	0.0	0.0
31	MICA	12.0	0.0	0.0	0.0
32	OTHER NON-METALLIC MINERALS	4.6	2.1	18.6	11.1
	NON-METALLIC MINERALS	4.8	1.6	18.6	8.7
	MINERALS	3.5	1.0	16.9	5.7

PAGE 2

Sector No.	Sector Name	STATUTORY EXCISE RATE	COLLECTION/ GROSS OUTPUT	COLLECTION/ EXCISABLE OUTPUT	EXCISABLE OUTPUT/ GROSS OUTPUT
23	SUGAR	4.8	10.3	18.6	55.3
35	HYDROGENATED OIL (VANASPATI)	1.5	3.9	13.7	28.3
36	EDIBLE OILS OTHER THAN VANASPATI	4.7	0.2	6.4	2.5
37	TEA AND COFFEE PROCESSING	4.1	4.0	5.5	72.4
38	MISCELLANEOUS FOOD PRODUCTS	7.7	0.9	10.0	9.3
39	BEVERAGES	9.5	4.6	51.7	9.0
40	TOBACCO PRODUCTS	28.2	70.7	34.3	206.3
	FOOD, BEVERAGE, TOBACCO	7.6	7.4	22.3	33.2
42	COTTON TEXTILES, KHADI	6.8	1.5	6.9	21.8
43	WOOLEN TEXTILES	7.9	0.6	14.F	4.2
44	SILK TEXTILES	0.0	0.0	0.0	0.0
45	ART SILK, SYNTHETIC FIBER TEXTILES	17.5	12.6	103.7	12.1
46	JUTE, HEMP, MESTA TEXTILES	11.5	0.4	32.3	1.3
47	CARPET WEAVING	27.3	0.5	19.1	2.5
48	READY-MADE GARMENTS & TEXTILE GOODS	0.6	0.0	0.6	0.6
49	MISCELLANEOUS TEXTILE PRODUCTS	13.0	0.3	1.7	15.1
	TEXTILES	9.1	4.1	28.2	14.5
54	LEATHER FOOTWEAR	28.3	0.0	0.0	0.0
55	LEATHER & LEATHER PRODUCTS EXCEPT FOOTWEAR	6.8	1.4	202.2	0.7
	LEATHER	9.1	0.7	202.2	0.4
	LEATHER AND TEXTILES	9.1	3.9	28.5	13.5
56	RUBBER PRODUCTS	23.4	24.8	70.1	35.4
58	PETROLEUM PRODUCTS	20.5	16.6	43.8	37.8
59	COAL TAR PRODUCTS	15.0	0.5	19.8	2.6
	PETROLEUM AND COAL PRODUCTS	21.9	16.7	47.8	34.9
60	INORGANIC HEAVY CHEMICALS	14.0	10.1	12.5	80.8
61	ORGANIC HEAVY CHEMICALS	15.1	5.5	13.8	40.2
62	FERTILIZERS	0.0	0.1	11.1	0.7
63	PESTICIDES	14.3	1.7	8.3	19.8
64	PAINTS, VARNISHES AND LACQUERS	18.6	3.8	6.5	57.9
65	DRUGS AND MEDICINES	10.5	0.0	9.6	0.4
66	SOAPS, COSMETICS, GLYCERINE	44.9	11.4	16.9	67.6
67	SYNTHETIC FIBERS, RESIN	21.8	23.8	36.0	66.1
68	OTHER CHEMICALS	16.8	6.2	12.4	50.-
	CHEMICALS	23.1	6.6	16.9	38.9
69	STRUCTURAL CLAY PRODUCTS	12.0	8.0	24.9	32.2
70	CEMENT	30.8	31.7	19.4	162.8
71	OTHER NON-METALLIC MINERALS PRODUCTS GEMS	24.7	21.8	26.3	86.4
	NON-METALLIC MINERALS PRODUCTS	21.9	15.7	20.7	76.0

Sector No.	Sector Name	STATUTORY EXCISE RATE	COLLECTION/ GROSS OUTPUT	COLLECTION/ EXCISABLE OUTPUT	EXCISABLE OUTPUT/ GROSS OUTPUT
72	IRON, STEEL AND FERRO ALLOYS	8.0	2.4	44.7	5.3
73	IRON, STEEL CASTING AND FORGING	12.0	0.1	10.4	1.3
74	IRON AND STEEL FOUNDRIES	6.1	14.7	23.9	61.5
75	NON-FERROUS BASIC METALS (INCLUDING ALLOYS	11.4	6.8	12.1	55.8
	METALS	8.0	4.4	22.3	19.9
76	HAND TOOLS, HARDWARE	15.0	4 4	14.4	30.8
77	MISCELLANEOUS METAL PRODUCTS	15.5	2.9	10.6	27.7
	METAL PRODUCTS	15.3	3.2	11.4	28.4
78	TRACTORS AND OTHER AGRICULTURAL IMPLEMENTS	14.0	2.1	7.0	29.7
79	INDUSTRIAL MACHINERY FOR FOOD AND TEXTILES	15.0	6.3	12.6	49.7
80	INDUSTRIAL MACHINERY (EXCEPT FOOD AND TEXT	15.2	8.6	12.5	68.4
81	MACHINE TOOLS	15.5	2.6	9.6	27.6
83	OTHER NON-ELECTRICAL MACHINERY	13.0	10.6	14.7	72.2
84	ELECTRICAL INDUSTRIAL MACHINERY	14.7	5.5	12.3	44.3
85	ELECTRICAL CABLES, WIRES	30.0	6.9	11.7	59.3
89	OTHER ELECTRICAL MACHINERY	18.0	22.9	14.6	157.7
	BASIC MACHINERY	14.6	7.9	13.2	59.5
82	OFFICE COMPUTING AND ACCOUNTING MACHINERY	19.2	17.2	17.7	97.5
88	COMMUNICATION EQUIPMENT	16.1	4.0	14.9	27.0
	COMMUNICATIONS & OFFICE EQUIPMENT	17.7	4.7	15.3	30.7
	PROJECT IMPORTS				
	ALL MACHINERY (BAS.+COMM.& OFF.+ PROJ.)	14.8	7.4	13.4	55.7
86	BATTERIES	25.0	11.6	20.2	57.2
87	ELECTRICAL APPLIANCES	24.6	7.9	45.1	17.5
90	ELECTRONIC EQUIPMENT INCLUDING T.V.	17.1	7.8	21.0	37.3
	ELECTRICAL APPLIANCES & ELECTRONICS	20.3	8.5	24.0	35.4
91	SHIPS AND BOATS	12.8	21.3	12.4	172.2
92	RAIL EQUIPMENT	14.3	5.1	16.3	31.2
93	MOTOR VEHICLES	21.8	7.4	13.9	53.5
94	MOTOR CYCLES AND SCOOTERS	13.6	11.5	10.7	107.2
95	BICYCLES AND CYCLE-RICKSHAW	0.0	2.6	6.9	37.6
96	OTHER TRANSPORT EQUIPMENT	11.6	1.6	5.8	27.5
	TRANSPORT EQUIPMENT	16.1	0.1	0.1	57.8
97	WATCHES AND CLOCKS	6.3	0.9	1.5	59.4
98	MISCELLANEOUS MANUFACTURING	14.2	1.4	9.1	14.9
50	FURNITURE AND FIXTURES AND FIXTURES-WOODEN	28.3	2.6	16.9	15.5
51	WOOD AND WOOD PRODUCTS EXCEPT FURNITURE	7.6	4.3	19.1	22.4
52	PAPER, PAPER PRODUCTS AND NEWSPRINT	16.9	6.3	10.3	61.3
53	PRINTING, PUBLISHING AND ALLIED ACTIVITIES	6.9	0.0	7.6	0.5
57	PLASTIC PRODUCTS	22.7	4.7	22.4	21.1
	OTHERS	14.1	2.9	11.6	25.4
	Manufacturing	14.6	7.0	21.0	33.3
	TOTAL	13.5	4.6	21.0	21.3

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